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OVERSIGHT OF THE BUREAU OF LABOR STATISTICS: FIXING THE CONSUMER PRICE INDEX

HEARING

BEFORE THE

SUBCOMMITTEE ON HUMAN RESOURCES

OF THE

COMMITTEE ON GOVERNMENT
REFORM AND OVERSIGHT
HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTH CONGRESS

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OVERSIGHT OF THE BUREAU OF LABOR STATISTICS: FIXING THE CONSUMER PRICE INDEX

WEDNESDAY, APRIL 30, 1997

House of Representatives,
Subcommittee on Human Resources,
Committee on Government Reform and Oversight,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:10 a.m., in room 2203, Rayburn House Office Building, Hon. Vincent Snowbarger (vice chairman of the subcommittee) presiding.

Present: Representatives Shays, Snowbarger, Towns, Barrett, and Sanders.

Ex officio present: Representative Waxman.

Staff present: Lawrence J. Halloran, staff director and counsel; Christopher Allred, and Robert Newman, professional staff members; R. Jared Carpenter, clerk; and Ronald Stroman and Karen Lightfoot, minority professional staff members.

Mr. Snowbarger. We are going to call the committee to order. Chairman Shays is not able to be with us, at least for the first part of the hearing, so I will be chairing until his arrival.

The purpose of this hearing is to examine how the Bureau of Labor Statistics maintains the accuracy of the Consumer Price Index. The subcommittee will consider how the CPI should be made more accurate. The hearing will also discuss the avoidable and unavoidable biases in the CPI.

I am a strong supporter of indexing benefits, and especially taxes, for inflation. Ordinary Americans should be guaranteed that the taxes they are required to pay are based upon fair and accurate statistics, and that the benefits that they receive are accurately calculated to address their needs. I look forward to hearing from the panelists today as they discuss these important issues.

Let me be clear, I understand and believe that the calculation of the CPI is the responsibility of the Bureau of Labor Statistics. It is not the job of Congress to be involved in the calculation of the CPI, nor should it be. This would raise the danger of politicizing economic statistics, such as what happened in the Soviet Union. Also, if changes had to be made legislatively, the opposition party would demagog the issue, as some White House officials were prepared to do in the past election.

Congress does have the oversight responsibility to ensure that BLS is calculating the CPI accurately, as current economic methodology and technology allow. The CPI is one of the most important economic statistics calculated by the Federal Government. Its calculation is critical in determining how the Government will make benefit adjustments to offset the effects of inflation. Cost of living adjustments to Social Security, SSI, the Civil Service Retirement System, the Federal Employees Retirement System, veteran's pensions, child nutrition, and food stamps are directly affected by the CPI. In addition to benefit adjustments, income tax rates are also indexed based on the CPI, so as to lessen bracket creep.

In 1961, the Stigler Committee identified several problems associated with the calculation of the CPI. In fact, some of the concerns raised in today's Boskin report were recognized by the Stigler Committee 35 years ago. I am troubled to see that these problems persist, and I am eager to hear what the BLS is doing to address these concerns.

According to CBO estimates, starting in 1996, a 0.5 percent annual reduction in the CPI growth would have reduced the Federal budget deficit by $209 billion between fiscal year 1996 and fiscal year 2000. These numbers stress the need for this committee to address the questions raised by the Boskin Commission, and the Boskin Commission's assertion that the CPI is overestimated by 1.1 percent annually. If the Boskin report is accurate in its assessment that the CPI is overstated by 1.1 percent annually, then Government would overcompensate for inflation in the years fiscal year 1996 to fiscal year 2000 about $400 billion more than the actual increase in the cost of living.

The loss here is not to the Federal Government; the loss is to the American taxpayer, who is required to pay more to perpetuate this inefficiency. If taxpayers are to be spared this undue burden, then BLS must eliminate the bias in the CPI. Since so many decisions, both in the Government and the private sector, are based on the CPI, any inaccuracies in the CPI have a ripple effect that causes even greater distortions in our economy. The question of CPI accuracy is a multibillion-dollar question, and finding the answer is critical to the work we are undertaking to make Government more efficient and less burdensome. I do not necessarily want the CPI lowered or raised; I just want it to be an accurate reflection of the true economic conditions and as accurate as possible.

Again, I would like to thank the chairman for holding this hearing. I look forward to the witnesses' testimony and questions.

I want to indicate one of the statements in the chairman's statement that I want to make sure everyone understands, in terms of the presumptions that we have going into this hearing. "It now appears that there is not going to be any externally imposed CPI fix as a part of the 1998 Federal budget." That's as it should be. "The rendering of national economic statistics should be based on sound principles and valid data. The CPI should be immune to political manipulation, both external and internal."

So, because of those presumptions, we're very interested in finding out how we can get to as accurate a CPI as possible.

With that, Mr. Waxman.

[The prepared statement of Hon. Christopher Shays follows:]

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SUBCOMMITTEE ON HUMAN RESOURCES
Christopher Shays, Connecticut
Chairman
Room B-372 Rayburn Building
Washington, D.C. 20515
Tel: 202 225-2548
Fax: 202 225-2382

Statement of Rep. Christopher Shays
April 30, 1997

It now appears no externally imposed Consumer Price Index (CPI) "fix" will be part of the fiscal year 1998 federal budget. So it is particularly timely that today we ask the Bureau of Labor Statistics (BLS) to describe the Administration's plans to improve the accuracy and protect the integrity of this most important national economic measurement.

The rendering of vital national economic statistics should be based on sound principles and valid data. The CPI should be immune to political manipulation, both external and internal. Guided by these principles, our concern today is not just the degree of bias in the current CPI, but the degree to which the BLS is implementing an impartial, ongoing and effective process to enhance CPI methodology and data.

Suggestions of potentially significant upward, and downward, biases in the CPI are not new. Some weaknesses have been apparent since inception of the price index. The "fixed market basket" approach produces a relatively rigid measurement, one inherently insensitive to product substitution by consumers. The difficulties of quantifying the impact of new products and quality improvements were also noted more than 35 years ago.

Only recently has BLS begun to address these longstanding issues in broader, some might say bolder, terms than was evident in previous, limited adjustments or experiments. Today, we will hear about the Administration's plans for near-term CPI improvements, the BLS research agenda and their plans to improve the quantity, quality and timeliness of CPI data.

In the longer term, the challenge will be to make sure a static CPI is not distorting our view of an increasingly dynamic economy. Modifications must keep pace with fundamental changes in products, prices and consumer behavior or the Consumer Price Index will become less accurate, and therefore less useful as the basis of cost-of-living calculations.

Our second panel of economists will address these issues and offer their views on both short and long term improvements to the CPI.

It has been said statistics are often difficult to swallow, impossible to digest. Statistics like the CPI can seem shrouded by an impenetrable cloud of arcane economic theory and complex statistical formulas. We look to those entrusted to calculate key economic indices, our witnesses today, for clear answers and unequivocal assurances regarding the continued impartiality and accuracy of the CPI.

Welcome, and thank you for being here.

Mr. WAXMAN. Thank you very much, Mr. Chairman. I want to thank you for holding this hearing, and I want to express my concurrence with your statement.

The CPI involves many complex issues, and any change in that index is going to affect millions of people. I believe that any revision to the CPI should be made by the expert statisticians and economists at the Bureau of Labor Statistics.

Revising the CPI should not and must not be a political decision. During the last several weeks of budget negotiations there has been much speculation over whether an adjustment to the CPI should be part of the budget package. In fact, today's newspapers report that, in behind-the-scenes talks, negotiators are discussing adopting "experimental inflation indexes."

According to the reports, the cost of living measure would not be expressly changed, but an assumption to make those changes would be built into the budget deal. The formula mentioned could cut the CPI by as much as one-half of a percentage point.

I strongly oppose any change in the CPI that is motivated solely by budget-balancing expediencies. CPI savings should not be used as some last-minute filler for a hole in the budget, particularly for a budget that contains deep cuts in Medicaid, the health care program for the very poor, and, in my view, unjustifiable tax cuts for the wealthy.

It is essential that a CPI fix not result in a budget that achieves balance by irresponsibly sacrificing the interests of Social Security recipients, veterans, and other hard-working Americans, so that the money they have earned is redistributed to the wealthiest in our country.

Let's keep politics out of the CPI. We should all support additional funds to continue the work of BLS as a first-rate agency and fully support the professional decisions that its experts make based on the facts. I don't want to see this budget build in some assumption that will exert pressure on the Bureau to live up to that expectation. I think it is completely inappropriate to do that.

When the President presented his budget, he made certain assumptions based on the BLS expectations of what the CPI would be. We ought to stand with that and not change it for any political reasons, in order to deal with lack of sufficient revenues or cuts to bring the budget in any kind of balance.

I think this is a hearing well worth having. It is important for us to look at these questions, and I thank you very much, Mr. Chairman, for holding it.

Mr. SNOWBARGER. Mr. Sanders.

Mr. SANDERS. Thank you very much, Mr. Chairman.

I concur with Mr. Waxman. These are important hearings, and I'm glad that we are holding them.

I find it curious that there is so much attention being paid, in the last year, to the CPI. Having been involved in politics for a little while, I have the feeling that that interest is not just because of intellectual curiosity on the part of Members of Congress but, as Mr. Waxman indicated, has something to do, perhaps, with the budget process.

What I fear very much is that there are some people in Congress, or maybe in the White House, who would like to use a change in the CPI to balance the budget in a way that I consider to be very, very unfair.

Mr. Snowbarger, you mentioned earlier about the Soviet Union. Remember, in the days of the Soviet Union, when they didn't reach their quotas, all they would do is change the quota. So I fear very much now, instead of changing the economy to protect our elderly or our working people, what we are going to do is change the statistics and tell them, "Hey, you didn't know it, but things are really much better than you thought. You thought you were working longer hours for low wages, but we have new statistics to tell you you've never had it so good."

Elderly people in my State can't afford their prescription drugs. They can't afford to heat their homes. And I think, I fear very much that there are some people who would like to tell those folks, "You're wrong. Things are really good. Look at the statistics."

I would say, Mr. Chairman, not having done an exhaustive study on the issue, but based on my own personal observations and reading a little bit about it, that for senior citizens, at least in some parts of this country, not only is the CPI not too high, it probably underestimates the increased costs that they incur in a given year.

Perhaps Ms. Abraham will discuss that later, but I can tell you that, in my State, a lot of our senior citizens spend a lot of their money on health care, health care needs, prescription drugs. My understanding is that the cost of health care is going up considerably higher than the cost of inflation, in general.

In my State, where the weather gets 20 below zero, people spend a lot of money on home heating fuel. The cost of home heating fuel is going way up. Now, I understand that computers are going down, but most of the senior citizens in my State, who are trying to get by on $7,000 or $8,000 a year, are not investing many thousands of dollars in computers.

So I would argue that, based at least on what I see, for security who are on Social Security, probably the CPI underestimates the increased costs that they deal with every year. I would very strongly oppose any effort to cut the CPI as a back-door way of balancing the budget.

What I fear very much is the politics of this whole issue, because I can see that it would be very easy for politicians to get up there and say, "We're not cutting Social Security; we're just readjusting the CPI. And we're sorry, the senior citizen who is trying to get by on $7,000 a year, you're going to get $100 less. But that's not a cut; that's just a readjustment." I hope that this Government does not stoop to that level.

Thank you very much, Mr. Chairman.

Mr. SNOWBARGER. Mr. Towns.

Mr. TOWNS. Thank you very much, Mr. Chairman.

Thank you for holding this important and timely hearing. While most Americans have no idea how the Bureau of Labor Statistics calculates the Consumer Price Index, all of us are greatly affected by the calculations. The CPI affects everything from interest rates to taxes, to Social Security payments. In a very fundamental way, the CPI plays an important role in the quality of life for the citizens of our country, especially our senior citizens.

For years, some economists have argued that the Consumer Price Index significantly overstates inflation. Other economists have argued that the CPI is a reasonably good measure of inflation, needing only modest adjustments.

Reaching a consensus between these divergent points of view will be difficult and extremely complex. However, with Congress and the administration seeking the least painful way to balance the Federal budget, the CPI debate has suddenly become a significant factor in the budget negotiations. That is wrong.

Our need to balance the budget should not drive a decision about whether to change the Consumer Price Index. Economists at the Bureau of Labor Statistics should make these decisions, not the Congress. These decisions should be made by the experts.

We need to examine how any recommended changes will affect the working men and women of our country, our senior citizens, and our Nation's poor. We must be careful not to balance the budget on the backs of those who can least afford it.

I would like to join my colleague, Congressman Bernard Sanders, in saying that we need to be very sensitive to the needs of our senior citizens and people that have to pay a tremendous amount of their money, in terms of health care, and providing services for the poor. We need to be very sensitive to those kinds of issues.

Mr. Chairman, I would like to welcome all of our witnesses today, and I look forward to working with you on this issue. But I want to say right up front, I have some deep concerns when I think about Members of Congress getting involved in this process, when I think it should be left totally up to the experts.

Thank you.

Mr. SNOWBARGER. Mr. Barrett, do you have an opening statement?

Mr. BARRETT. No.

Mr. SNOWBARGER. All right.

I think, with that, we are ready for our first panel today, and that is Ms. Katharine Abraham, who is the Commissioner of Labor Statistics at the Department of Labor.

Ms. Abraham, I would ask if you would stand, please. This is something we put everyone through that comes before the committee.

[Witness sworn.]

Mr. SNOWBARGER. With that, welcome to the committee, and we look forward to your testimony.

Before you go on, let me get a few housekeeping things out of the way. First of all, I would ask unanimous consent that all members of the subcommittee be permitted to submit an opening statement for the record, and that the record remain open for 3 days for that purpose. Without objection, so ordered.

I ask, further, unanimous consent that all witnesses be permitted to include their written statements in the record, and that the record remain open for 3 days for that purpose. And without objection, so ordered.

[The prepared statement of Hon. Dennis J. Kucinich follows:]

[redacted] Opening Statement of Rep. Dennis J. Kucinich
Hearing on the Accuracy of the Consumer Price Index
April 29, 1997

Mr. Chairman, I'd like to thank you for giving the subcommittee the opportunity to learn more about the consumer price index, arguably the most important statistic in our lives.

The CPI is important to business. It is used by American corporations in every aspect of their business. It is used by government as a basis for the Cost of Living Adjustment to protect senior citizens, veterans and children from the erosion of their benefits.

The CPI is as complicated a statistic as it is important. The issue of accuracy is not new. The BLS has devoted a lot of consideration and study to the many different aspects of their calculation of inflation. The BLS does not dispute that there are "biases" in their calculation. They acknowledge that there are factors that influence the calculation of inflation.

The context of today's hearing is that there is a lot of pressure to revise the CPI. We recognize that there is considerable pressure to do so in order to make it easier to balance the budget by decreasing the cost of living adjustment that protects benefits payments from erosion.

I look forward to hearing from the Bureau of Labor Statistics today

Mr. SNOWBARGER. Ms. Abraham.

STATEMENT OF KATHARINE G. ABRAHAM, COMMISSIONER OF LABOR STATISTICS, DEPARTMENT OF LABOR, ACCOMPANIED BY WILLIAM BARRON, DEPUTY COMMISSIONER OF LABOR STATISTICS

Ms. ABRAHAM. Thank you very much, Mr. Chairman.

I do have a written statement that I would like to submit for the record. In light of the specific questions that I understood the subcommittee was to focus on, however, my remarks this morning are oriented toward talking about the actions that the Bureau of Labor Statistics has taken and is considering taking to make the CPI the best possible measure it can be.

I would be happy, of course, to answer any questions that you or other Members might have about my submitted testimony, which examines some of the difficult conceptual and operational issues that have been raised about the use of the CPI as a proxy for change in the cost of living, including such things as the appropriate treatment of substitutions made by consumers in their purchasing decisions in response to changes in relative prices, changes in the quality of goods and services, and the increased availability of new goods and services in the marketplace.

As you well know, interest in CPI measurement issues has heightened dramatically in the last few years, particularly in light of the impact of the index on Federal expenditures and receipts. Many, if not most, of the issues under discussion originated with research produced by the Bureau of Labor Statistics staff.

I am proud to be able to say that the BLS has a long tradition of being in the forefront of price measurement research and operational innovation. A list of the many improvements the BLS has made to the CPI over the years is attached to my formal statement.

I would like, if I could, to draw the subcommittee's attention, in particular, to the series of improvements in the index the BLS has made in the last 2 years alone. These improvements include the identification and solution of the so-called "formula bias" problem, and the introduction earlier this year of a new approach to the measurement of prices for hospital services. We previously have estimated that the various improvements made during 1995 and 1996 have probably had the net effect of reducing the rate of growth of the CPI by about 0.2 percentage point per year. Some of the changes made it grow slower. There was one change, in particular, that probably led to an index that grew slightly faster.

In addition, earlier this month we commenced publication of a new experimental measure that, under certain conditions and assumptions, may better reflect consumer substitution within CPI item categories than the existing measures. Evaluation of the geometric mean formula underlying the new measure likely will lead to its partial adoption in the official CPI, which would address, in the terms of the Boskin Commission's report, the lower level substitution bias.

We will make a decision by the end of this year as to which CPI categories should employ this geometric mean formula, and we will introduce these modifications into the official index, most likely with the release of data for January 1999. Our estimate is that this will reduce the rate of CPI growth by somewhere between zero and a quarter of 1 percent per year, depending on how many and which CPI categories are modified to use the geometric mean approach.

I also would like to report that the critical activities associated with the periodic CPI revision, for which we first requested and received funding from the Congress in 1995, remain on course. The CPI for the month of January 1998 will include new expenditure weights, updated from the 1982 to 1984 weights currently in use to weight based on data for the 1993 to 1995 period. The Congressional Budget Office has estimated that this change will reduce the annual rate of increase in the CPI by 0.2 percentage point per year.

Further, I am pleased that the BLS has been able to propose a series of steps to strengthen the statistical and methodological infrastructure of the current CPI program. In addition to the funds to continue the CPI revision, as previously described, our 1998 budget seeks about $2 million in new funding that will make it possible for us to begin the work needed to ensure that future CPI revisions can be conducted more rapidly.

The same proposal includes funding to support enhancements to our methods for dealing with the changes in the quality of items consumers purchase, which, again, referring to the Boskin Commission report, was one of the big issues that they focused on, and also the emergence of new goods in the marketplace, another important issue.

Finally, the funds we have requested also would allow us to produce supplemental measures that account for substitution across item categories, the so-called “upper-level substitution bias,” in a way that is not possible in the official CPI.

I have tried to be brief in identifying the actions that we have underway to improve the CPI. I would, of course, be happy to describe any of these in greater detail or, indeed, to respond to any questions you might wish to ask.

Thank you.

[The prepared statement of Ms. Abraham follows:]

Testimony of

KATHARINE G. ABRAHAM

COMMISSIONER OF LABOR STATISTICS

before the

SUBCOMMITTEE ON HUMAN RESOURCES
HOUSE COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT

APRIL 30, 1997

I appreciate the opportunity to testify today in response to the Subcommittee's questions about the actions the Bureau of Labor Statistics (BLS) has taken and will be taking to improve the accuracy of the Consumer Price Index (CPI). To provide some context for the activities I will describe this morning, I also will discuss some of the measurement issues raised in the December 1996 report of the Senate Finance Committee's Advisory Commission to Study the Consumer Price Index.

It is important to note at the outset that the BLS has a long tradition of being in the forefront of price measurement research and operational innovation. Attached to my statement is a document listing many of the improvements to the procedures used in constructing the CPI that the BLS has made over the years (Attachment A). I would particularly draw the Subcommittee's attention to those improvements introduced over just the past two years, including steps taken in 1995 and 1996 to identify and resolve the so-called "formula bias" problem, and the introduction earlier this year of a new approach to the measurement of prices for hospital services. These refinements are indicative of the Bureau's ongoing commitment to keeping its measures as accurate and up-to-date as possible.

The Bureau, in fact, has efforts currently underway and future activities planned that will further improve the accuracy of the index. Just this month we have begun issuing a new experimental measure that is designed to help us in identifying the best way to address the so-called "lower-level" substitution bias in the CPI (which I will describe at greater length a bit later in my testimony). I also am pleased that the President's Fiscal Year (FY) 1998 budget includes a program increment that will allow us to take several additional steps toward increasing the accuracy of the CPI. The BLS will be requesting resources to speed up the process of updating the CPI market basket in future revisions. Resources to expand the collection of information on the prices and characteristics of certain goods and services, together with resources to be devoted to the early identification of new goods as they become available in the marketplace, also will be requested. This information will enable us to improve the methods we use to adjust for quality change and to insure that new items are brought into the index in a more timely fashion. Finally, the request provides for the production of supplementary measures of change in consumer prices that we believe would provide closer approximations to the change in the cost of living than the currently published CPI. At the appropriate points in my testimony, I will indicate the relationship between these current and planned activities and the issues raised in the Commission's report.

The Advisory Commission's report begins with one overarching recommendation: "The BLS should establish a cost of living index (COLI) as its objective in measuring consumer prices." This seems basically right to me. Indeed, the BLS long has said that it operates within a cost-of-living framework in producing the CPI. That framework has guided, and will continue to guide, operational decisions about the construction of the index. Putting things slightly differently, if the BLS staff or other technical experts knew how to produce a true cost of living index on a monthly production schedule, that would be what we would produce. I therefore have no fundamental disagreement with the Commission about what the objective of our CPI program ought to be, though we disagree to some extent about what changes to the index would be feasible and prudent and about the timetable on which those changes could be implemented.

More specifically, the Commission's report focuses on two broad issues concerning the CPI as a proxy measuring changes in the cost of living of the U.S. consumer. The first is substitution bias, comprising what the Commission terms lower-level and upper-level components. The Commission believes that these components together impart an upward bias in the CPI of 0.4 percentage point per year. The second broad issue involves how best to treat changes in the quality of goods and services that consumers buy, changes in how and where those goods and services are sold, and the emergence of new goods and services. The Commission believes that failure to adjust adequately for these effects imparts a 0.7 percentage point per year upward bias to the CPI. The total overstatement of the change in the cost of living due to substitution bias and other problems together is judged by the Commission to amount to 1.1 percentage points per year.

Let me talk first about substitution bias. Like the Commission members, I also am an economist. Almost any economist would agree that an index such as the CPI that tracks the cost of purchasing a fixed market basket of goods and services represents an upper bound on the change in the cost of living. Indeed, for many years, the BLS has attempted to explain exactly this point.

Operationally, as the Commission suggests, substitution bias may show up at two levels. By way of background, the CPI is constructed by first aggregating the roughly 90,000 price quotations collected each month to form a series of subindexes for categories of items such as "Apples," "Men's Shirts," and "Prescription Drugs," and then aggregating those subindexes to form the overall CPI. The formula used to aggregate the individual price quotations to form the subindexes does not account for consumers' ability to substitute across items within item categories when the relative prices of those items change – for example, when the price of Delicious apples increases and the price of Granny Smith apples falls. Similarly, the formula used to aggregate the subindexes to form the overall CPI does not reflect the substitution across item categories that takes place when the relative prices of items in different categories change – for example, when the price of apples falls relative to the price of oranges. Were such substitution taken into account, the CPI undoubtedly would rise less rapidly.

To address the so-called lower-level substitution problem, the Commission has suggested adoption of an alternative formula for aggregating price quotations, one that has been under investigation by the BLS over the past several years. As noted above, the current CPI formula does not allow for the potential substitution among items within a category, such as between different varieties of apples, when the relative prices of those items change. The proposed alternative formula, termed the geometric mean formula, is based on a different assumption about consumers' substitution behavior, namely that consumers substitute among items in such a way as to hold the share of their expenditures devoted to each item constant. Neither the assumption of no substitution underlying our current practice nor the assumption underlying the geometric mean formula is likely to provide a close approximation in all cases. It may be more plausible to assume that consumers substitute freely between types of apples or between brands of television sets when their relative prices change than to assume similar substitutability between types of prescription drugs or between electric power companies in an area. As I indicated earlier, the BLS has begun issuing a monthly experimental measure that is constructed using the geometric mean formula in all index components, and will make a decision by the end of this year as to which components of the official CPI should employ the geometric mean formula..

Upper-level substitution bias occurs because the formula currently used to aggregate CPI subindexes ignores the fact that consumers substitute across item categories when relative prices change. Here, however, the nature of the operational problem faced by the BLS is a bit different than that at the lower level of item aggregation. The detailed data needed to account for lower-level substitution in the calculation of CPI subindexes are simply not available. In contrast, at the upper level of item aggregation, the BLS does collect information on consumer expenditures across item categories, like apples, men's shirts, and prescription drugs. Therefore, it is possible to construct a measure that accounts for substitution across those item categories in response to relative price changes, though not on the same-schedule as the current CPI. The expenditure information required to construct such a measure -- one of the so-called superlative indexes -- is available only with a lag, so that the index cannot be produced until the fall following the year to which it applies. The BLS currently produces these measures on an experimental basis, and would be happy to produce them to a higher standard of precision and reliability. Thus, we are receptive to the spirit of the Commission's recommendation that we produce an annual superlative index as a supplement to the official monthly CPI, and will be able to make substantial headway in this regard if we receive the FY 1998 program increase we are requesting.

Recognizing the unavoidable time lag in producing a true superlative measure, the Commission recommends that the BLS explore steps that might make the monthly CPI a better approximation to such an index. The Commission has suggested, for example, that updating the index's expenditure weights on a continuous rather than a periodic basis and changing the formula for aggregating subindexes might make the CPI behave more like a superlative index. The BLS is, of course, open to exploring this sort of option, as can be seen in the variety of experimental indexes we have published for some time, and we will continue our work in this area. Adopting any option that has neither a sound theoretical foundation nor a clear empirical justification, however, would be a mistake. We can produce superlative measures, albeit with a lag, and thus convincingly deal with the "substitution bias" problem. I believe we would gain little, and possibly do much damage to the credibility of our statistical system, if we were to move hastily to adopt untested techniques for producing the official CPI.

Because it has received so much attention, I have spent a good deal of time talking about substitution bias. The largest share of the bias in the CPI that the Commission concludes exists -- 0.7 percentage point per year, or nearly two-thirds of the total of 1.1 percentage points per year -- arises from other sources. The Commission believes that the failure to make adequate adjustment for changes in the quality of the goods and services people buy and to account properly for the value to consumers of newly available goods, together with deficiencies in the way the CPI treats differences in the prices charged at different retail outlets, constitute a serious problem.

Before commenting on the evidence marshaled by the Commission in support of its conclusions in the quality/new goods area, I would like to note that the BLS already has procedures in place designed to account for changes in the quality of the items being priced. (It often mistakenly has been assumed, though not by the Commission, that BLS makes few or no such adjustments.) Although I would readily acknowledge that our adjustment procedures are not perfect, they do have a very important effect on the rate of price change the BLS reports. The best available information on this point applies to a CPI subindex covering roughly the commodities and services component of the market basket (about 70 percent of the total, with shelter the largest exclusion). During 1995, this subindex would have risen by 3.9 percentage points had these procedures not been applied. Because of their application, however, the subindex actually rose by only 2.2 percentage points over the year. Roughly speaking, these figures imply that the adjustments made by the BLS for changes in the quality of these goods and services amounted to 1.7 percentage points over the course of a single year. (These figures are somewhat different from those I reported in other testimony earlier this year. We have refined our prior estimates principally to exclude some "quality adjustments" that are made to account for changes in units of measurement or package size that might not normally be thought of as quality change.) I would add that the BLS also has established procedures for bringing new items and new outlets into the index. The expenditure share information used to aggregate the CPI subindexes is updated only once every ten years or so, but the specific stores in which prices are collected and the specific items priced are reselected on a five-year cycle. Although more frequent sample rotations undoubtedly would be desirable, it is a fact that a considerable share of the resources available for producing the CPI are devoted to ensuring that the sample of items priced is representative of what consumers actually are purchasing.

The Commission does not argue, of course, that the BLS is not making a good effort to address quality/new goods biases, but rather that, in spite of a good effort, residual bias remains. The report's approach to assessing this residual bias is to divide the index into 27 categories, and then to make a judgment about the magnitude of the bias in each case. Unfortunately, the evidence applicable to many of these categories is rather sparse.

In some of the categories, absent evidence, the Commission is forced to fall back on its best judgment. The food and beverages categories are perhaps the best examples; the Commission's estimates of upward biases in these categories rest exclusively on not implausible, but unsubstantiated, judgments regarding the value to consumers of increased variety on grocery and liquor store shelves, together with the value of greater choice in restaurants.

In other cases, members of the Commission have produced evidence that bears on the trend in prices for particular sorts of items. I cannot say, however, that this evidence always leads me to the same conclusions as those reached by the Commission. The Commission's estimate that the growth in prices of new and used cars has been overstated by 0.6 percentage point per year in the recent past, for example, rests on data showing that the average age of cars on the road has risen, together with an assumption that current CPI procedures do not capture any of the increases in automobile durability that may have occurred. This latter assumption, however, is incorrect; attached to my testimony is a document listing some of the many durability-related model changes for which adjustments have been made in the CPI over the past few years (Attachment B).

The Commission's estimate that the CPI has overstated the rate of growth of apparel prices by 1.0 percentage point per year since 1985, to take another example, rests on a comparison of the official CPI data with price indexes constructed using Sears catalogue prices for items remaining unchanged from one year to the next. Even beyond the reservations I have about drawing any general conclusions based upon the prices charged by a single catalogue merchant, I am skeptical of any index based only on the prices of unchanging items, particularly in a market segment where changing fashion is as important as it is in apparel.

On another note, I also would have found the report more persuasive had the Commission made a more systematic effort to explore the possible existence of negative biases in the CPI. Other analysts have hypothesized reduced convenience and comfort of air travel, and deteriorating quality of higher education, as examples of quality decreases that are ignored in the CPI. More generally, whereas the Commission notes some service quality improvements, such as the introduction of automatic credit-card readers at gasoline pumps, the BLS often hears complaints about broad-ranging declines in the quality of customer service, which are equally difficult to incorporate in the CPI.

A more subtle issue is that price increases for many goods occur intermittently and often are timed to coincide with model replacements or other quality improvements. The BLS commonly adjusts for quality differences between successive models by, in effect, treating the difference in price between them as wholly attributable to a difference in quality. There is a risk that this procedure over-adjusts for quality change, imparting a downward bias to the index. Methods have been introduced to try to minimize that possibility, but the Commission paid little attention to this potential problem.

Close to half of the quality/new goods bias the Commission believes exists in the overall CPI is judged to occur in just two areas of the index: medical care and high-tech consumer goods. These clearly are components of the index in which the BLS faces particularly difficult measurement problems, though I cannot say what the magnitude of any bias in these index components might be.

From a BLS perspective, the most important question about possible quality/new goods problems is what we might do to improve our procedures and ameliorate those problems. Recognizing the particular difficulties associated with measuring medical care prices and high-tech consumer goods prices, the BLS has devised and announced important improvements in our methods. These include changes in our hospital price measurement procedures, effective with the data for January of this year, and prospective changes in our sample rotation procedures that will allow us to update item samples in rapidly changing market segments more frequently than once every five years (at the cost of less frequent updates in more static market segments). In addition, the FY 1998 budget we are submitting would allow us to make important progress in the quality/new goods area, by supporting greater use of techniques that explicitly account for changes in the characteristics of items being purchased and implementation of more aggressive procedures for identifying and beginning to price new goods promptly once they appear in the marketplace.

The Commission's report also discusses the question of new outlet bias, namely, how changes in the mix of retail outlets at which consumers shop ought to be treated. Current CPI procedures treat purchases of a particular item at different retail outlets as distinct transactions; the prices at the different stores are never directly compared. This could impart an upward bias to the CPI if, for example, stores offering lower prices but comparable service gained in market share. As a practical matter, however, measurement of any such bias is complicated by the fact that different types of outlets commonly offer quite different shopping environments. Research on the factors affecting consumers' choices about where to shop ultimately may be helpful in devising appropriate procedures for dealing with changes in outlet mix.

All of this, however, leaves us a long way from having a complete solution to the quality/new goods and new outlet problems the Commission believes exist with the CPI. There is much of what the Commission discusses that we do not know how to measure -- or, to put it another way, for which economists simply do not have operational procedures to correct the problems cited. Let me try to illustrate what I mean.

Has the variety of goods and services available to consumers grown? I am certain that it has. Is this variety of value to consumers? Again, I would answer yes. We are, however, a very long way from being able to measure the value of that variety, and thus a very long way from being able to reflect the value of increased variety in the monthly CPI. We have been actively working on potential uses for scanner data in the CPI, one of which might be to allow us to identify new product introductions soon after they occur. Unfortunately, the techniques available for measuring the gains in consumer welfare from those new products (and the losses from product disappearances) are in their infancy, and may never be adaptable for implementation in a large, ongoing price measurement program like the CPI.

To take another example, I would readily acknowledge that there have been major improvements in the medical treatment available for many serious health problems -- improvements that have been of indubitable value to those suffering from the afflictions in question. Unfortunately, as a general matter, the BLS has no good way to measure the value of these improvements. Consider, to take just one example, a hypothetical improvement in knee surgery techniques that gives patients greater mobility following surgery than they previously could have expected. This improved mobility undoubtedly would be of value to those who benefit from the improvement in technique, but there is no obvious or clearly objective way to quantify that value. This is, I believe, an important point about which the Commission and the BLS are in agreement.

The BLS is committed to producing the very best CPI it can. Indeed, as I've noted, our Fiscal Year 1998 budget request proposes an increase in funding that would enable us to make significant progress on a number of the issues we have discussed here today. Although I believe that we can make important improvements in the CPI, I do not believe it to be possible to produce a perfect cost-of-living measure. This means that those who use the data we are able to produce should recognize the limitations of those data and exercise judgment accordingly concerning whether and how the data ought to be used.

ATTACHMENT A: IMPROVEMENTS TO THE CPI

Change	**Date**	**Description**
New Construction	1966	Rent samples augmented with units built after 1960.
Quality Adjustment of New Automobile Prices	1967	New automobile prices adjusted for quality differences after model changeovers.
Sample rotation	1981	Introduced a systematic replacement of outlets between major revisions.
Rental Equivalence	1983	Changed homeowners' component from cost of purchase to value of rental services for CPI-U.
Return from Sale Price Imputation	1984	Introduced procedure to eliminate downward bias due to items discontinued by outlets that went out of index with discounted prices.
Rental Equivalence	1985	Changed homeowners' component to value of rental services for CPI-W.
Enhanced Seasonal Products Methodology	1987	Enhanced methodology used for seasonal items by expanding the number of price quotations to allow selection of products from alternate seasons and eliminate under-representation of such items.
Quality Adjustment of Used Car Prices	1987	Used car prices adjusted for differences in quality after model changeovers.
Aging Bias Correction	1988	Rental values adjusted for aging of the housing stock.
Imputation Procedures for New Cars and Trucks	1989	Price changes for non-comparable new models imputed using only the constant-quality price changes for comparable model changeovers.
Quality Adjustment of Apparel Prices	1991	Regression models used to adjust apparel prices for changes in quality when new clothing lines introduced and eliminate bias due to linking product substitutions into the CPI.
Discount Air Fares	1991	Substitution rules modified to expand pricing of discount airline fares.
Sample Augmentation	1992	Increased the number of outlets from which prices are collected to replace sample lost through sample attrition.

New Models Imputation	1992	Refined imputation methods used when introducing new sample items into the CPI.
Hotels & Motels	1992	Samples for hotels and motels quadrupled to reduce variances related to seasonal pricing.
Seasonal Adjustment	1994	Procedures for seasonal adjustment revised to eliminate residual seasonality effects.
Quality Adjustment for Gasoline	1994	Treated "reformulated" gasoline as a quality improvement and adjusted the price to reflect quality difference. Impact of the change estimated.
Generic Drugs	1995	Introduced new procedures which allow generic drugs to be priced when a brand drug loses its patent.

ATTACHMENT A: IMPROVEMENTS TO THE CPI, CONT.

Food at Home Base Period Prices	1995	Introduced seasoning procedures to eliminate upward bias in setting of base period prices of newly initiated items.
Rental Equivalence	1995	Modified imputation of homeowners' implicit rent to eliminate the upward drift property of the current estimator.
Composite Estimator Used in Housing	1995	Replaced composite estimator with a six-month chain estimator. Under-reporting of one-month rent changes had resulted in missing price change in residential rent and home-owners' equivalent rent. Old estimator also produced higher variances.
Commodities and Services Base Period Prices	1996	Extended food-at-home seasoning procedures to remainder of commodities and services series. Base period prices left unchanged in most noncomparable substitutions.
Hospital and Related Services	1997	Reclassified item strata to better reflect shifts in patterns of treatment. Shifted to pricing services on selected patient bills to reflect alternative reimbursement methods and to improve quality adjustment.

ATTACHMENT B: EXAMPLES OF NEW CAR RELIABILITY/DURABILITY QUALITY ADJUSTMENTS IN THE CPI SINCE 1992

- Improved corrosion protection - body, electrical system, fuel tank, pump, shocks, brakes and cables
- Increased warranties
- Body side cladding
- Sealing improvements
- Stainless steel exhaust
- Longer life spark plugs - 100,000 mile life
- Improved steering gears
- Powertrain improvements
- Dextron III transmission fluid - 100,000 mile life
- Water pump front face - 150,000 mile life
- Battery saver
- Increased catalyst load - 100,000 mile life
- Rust resistant fuel injection -100,000 mile l
- Clearcoat paint
- sided galvanized steel body panels
- Serpentine drive belt

Mr. SNOWBARGER. We don't want you to be spooked by the light. If you have more to offer, we would be happy to give you the time.

Ms. ABRAHAM. No, that was perfect timing.

Mr. SNOWBARGER. All right.

I would like to start off with a question that really kind of goes to the heart of, I guess, why this seems to be in controversy, and that is that we, as a Congress, have determined that whether it's tax brackets, or whether it's benefits of all kinds, these should somehow be adjusted for cost of living. Could you explain for the committee the difference between a Consumer Price Index and a cost of living index?

Ms. ABRAHAM. The main conceptual difference between a cost of living index and a Consumer Price Index is that, ideally, a cost of living index would take into account the fact that, when prices of some things go up, prices of other things go up, at least in relative terms; that consumers can change their buying patterns in such a way that they don't need as much more money to achieve the same level of well-being as they would if they just kept buying what they were buying to begin with.

The cost of living measure would take that into account. The Consumer Price Index, which is based on tracking the cost of a fixed market basket of goods and services, historically has not.

There are a whole set of other issues related to trying to track the cost of living, which have to do with how you take into account changes in the quality of goods and services. That's all very difficult. But, in principle, what you would want to do for a cost of living measure would be the same as what you want to do with putting together the Consumer Price Index.

Maybe one other comment: When we talk about the Consumer Price Index, we describe it as an upper-bound approximation to a cost of living index; a particular cost of living index. It's the cost of purchasing the things that people buy out-of-pocket, assuming that nothing is changing in the environment, that taxes are not changing, that the quality and quantity of public services provided is not changing. So it's an approximation to one particular cost of living measure.

Mr. SNOWBARGER. Would it be fair to say that a number of the criticisms that came out of the Boskin report are basically criticizing CPI for not being a cost of living index, as it should be, or as they would envision it to be?

Ms. ABRAHAM. The discussion of substitution bias is really that.

Mr. SNOWBARGER. Well, substitution bias, but also trying to figure out these decisions, how people both substitute outlets and goods in their buying patterns.

Ms. ABRAHAM. Yes. All of these issues relate to things that, in the commission's view, would need to be addressed to make the index more closely approximate the cost of living.

Mr. SNOWBARGER. One of the concerns that I have is how long all this seems to take. I mentioned in my opening statement the Stigler Committee report back in 1961, and then I also think I read last night, in perhaps testimony that you gave to another committee, maybe it was the Budget Committee, that there are certain things that your office has had under consideration for as many as 10 years.

Can you explain? I will try to locate the statement for you, but that maybe you have been looking at the substitution question for that period of time.

Ms. ABRAHAM. It may not be 10 years, but I understand the thrust of your broader question.

Mr. SNOWBARGER. The broader question is—well, let's take the Stigler Committee report. Can you tell us what BLS has, indeed, addressed in changing things over the last—well, I guess that would be over 30 years.

Ms. ABRAHAM. Thirty-five years.

Mr. SNOWBARGER. Thirty-five years. In trying to address that committee's concerns, and then, like I said, it seems like there has been some anticipation of problems that the Boskin report brought out for a long period of time, whether it's a decade or not. Maybe just address the timeframe.

Ms. ABRAHAM. Let me try to do that. As I read the Stigler Committee report, the main issue with which it was concerned was the representativeness of the set of items that were being priced for the Consumer Price Index at that time.

At that time, as most countries still do, the United States put the Consumer Price Index together by drawing up a list of specifications of items to price, and then sending people out to collect prices for those things. There is a concern, if you do that, that what you end up pricing isn't going to be representative of what people actually purchase, and the Stigler Committee report was very concerned with that.

In response to that report, the Bureau of Labor Statistics went through a period of research and, in 1978, implemented a fundamental change in the way we put together our Consumer Price Index, which involves going out and doing surveys to find out where people shop, going into those stores and taking steps to ensure that the items that are priced are representative of what people are actually buying in those stores.

So there was really a fundamental rethinking of how we put the index together that, in my view, is very important to the quality of the index. I think, in that respect, what we do is ahead of, better than what any other country I'm aware of does.

Mr. SNOWBARGER. Right. And I guess—not to interrupt—well, I am interrupting. Sorry about that.

Ms. ABRAHAM. That's OK.

Mr. SNOWBARGER. My concern is that we have a 1961 committee report, and here we say that in 1978 we made dramatic changes. That's 17 years.

Ms. ABRAHAM. Right. These are very complicated programs.

Mr. SNOWBARGER. I guess that's what I need to have explained to me. Why does it take so long to make the adjustments once these potential inaccuracies or biases are pointed out?

Ms. ABRAHAM. I wasn't here. I was in elementary school in 1961. So I can't speak to all that was going on over that period of time.

Mr. SNOWBARGER. I understand.

Ms. ABRAHAM. But I do know, again, from looking at the report, that although it contained ideas about issues that needed to be addressed, it didn't have a blueprint for how to go about doing that. There was an awful lot of thinking that had to go on between the time this issue about representativeness of the items being priced was raised, and that got thought through, and procedures that it would be possible to put in place were developed, funding for implementing those procedures was received, and so on.

It seems like a long time. I'm not sure, given what was involved, that it could have been a lot shorter. There are issues that probably are more pertinent to the current discussion, though, and maybe I could speak to those.

Mr. SNOWBARGER. I've really run out of time. I will take the chairman's prerogative to allow you to answer my question, then we will go to Mr. Towns. Go ahead, if you want to talk about the more current issues.

Ms. ABRAHAM. Other issues that were raised, and have been around for a long time, have to do with substitution bias and the quality of goods and services that are purchased, as well as new goods that come on the market.

With respect to the substitution bias, the Bureau, in the context of the 1978 CPI revision, took some steps that subsequently have led to our being able to estimate the magnitude of substitution bias. The surveys that collect the data that have allowed us do that got put in place in 1982, and over some subsequent period of time, we have been able to analyze those data.

You need a long time series to figure a lot of that out. So that's part of the answer on just generating the information as to how important that effect was. It has been well known that the CPI, because it tracks the price of a fixed market basket of goods and services, didn't take that into account.

The Stigler Committee report talked about quality in new goods. Other people have talked about quality in new goods and how you adjust for those. This really is a case where recognizing there is an issue and having ideas that let you do something about the issue are quite different things. I would say, at this point, that we do not have, from the economics profession, from other experts who might be able to advise us, from our own work, tools and techniques that would let us address the issues that have been raised.

Mr. SNOWBARGER. Thank you.

Mr. TOWNS. Thank you very much, Mr. Chairman.

Is there evidence that some groups in our society, such as the elderly, face a higher rate of inflation? If so, how does the Bureau of Labor Statistics adjust for this higher inflation?

Ms. ABRAHAM. That is something that we know, I would say, relatively little about. The CPI, as you know, is an average measure that covers the whole population, the whole urban population. Some years ago at the request of the Congress, we began producing an experimental Consumer Price Index for the elderly. We did that by taking data that we had collected for the regular CPI and just reweighting it in accord with the pattern of expenditures of elderly consumers.

That index has, over the period for which we have produced it, tended to go up a little bit more rapidly than the overall index, maybe three-tenths of a percentage point per year, largely because of the higher share of medical expenses in elderly consumers' budgets.

But there are some real caveats to interpreting that measure. We didn't go out and do special surveys to find out just where elderly consumers shop, so the stores we go to are the stores where everyone shops. And when we went into those stores, we didn't collect data on the items that elderly consumers were buying. So I think that there are some real caveats as to how accurate this measure is.

There is also an issue in that we know that it's very difficult, to adjust appropriately for the changes in the quality of medical care that have occurred over time in tracking the cost of medical care. The bigger share of medical care expenses is the main reason why the experimental index for the elderly has gone up more rapidly than the overall index.

Mr. TOWNS. So then would you agree that we should get more information before we move forward?

Ms. ABRAHAM. I would not presume to give you advice as to what the right policy course might be. I can describe for you the information we have, but I wouldn't presume to advise you as to what you ought to do with it.

Mr. TOWNS. I think the point I'm making is, it seems to be somewhat incomplete. That's the point I'm making. I mean, even with the information that we have.

Ms. ABRAHAM. Yes. We put together the best measure we could construct, given the information we had and absent extra resources to go out and construct a whole new index. There are some caveats attached to it.

Mr. SANDERS. Would the gentleman yield for a second on that?

Mr. TOWNS. I would be glad to yield.

Mr. SANDERS. I think Mr. Towns raises, to me, what is perhaps the most important point, and I'm a little bit surprised by your answer. How many people are on Social Security in America? What do we have, 40 million; 35 million people? Many of them are struggling just to survive on $7,000 or $8,000 a year. Mr. Towns suggests, and I would tend to agree with him, that perhaps the current CPI underestimates their increased costs.

Then when he asked you if you've looked at that, you say we know very little about it. Gee whiz, I mean, a lot of people in Vermont are barely getting by. I would hope that we would know a lot about it and you would be able to tell us, yeah, the CPI for seniors is X or Y. How come we know very little about this very important issue?

Ms. ABRAHAM. This is an issue in which the Congress has been interested. We do, as I indicated, produce an experimental measure. To go out and collect the data that would be required to produce a measure that didn't have these caveats would mean increasing the number of elderly people that we interview to find out where they shop; when we go into stores, trying to figure out which items they are purchasing; and separately tracking the prices of those items.

You would really be talking about, in essence, duplicating the whole program of data collection that we have in place to produce the Consumer Price Index.

Mr. TOWNS. Well, I think, in a growing population, we need to take another look at this. But anyway, I'm going to move on.

Would you agree with Dean Baker, who is a well-known economist at the Economic Policy Institute, who is going to be here—he's in the room now—on our next panel, that if the CPI has been significantly overstating inflation, we would need to throw out much of the economic research carried out over the past 40 years? Do you agree with that?

Ms. ABRAHAM. Clearly, if the CPI is dramatically overstated, then a lot of what we think we know about the rate of growth of real wages, and so on, needs to be modified.

Mr. TOWNS. I'm happy to hear you say that. Let me just ask one other question. I know my time is up.

Mr. SNOWBARGER. Go ahead.

Mr. TOWNS. Go ahead? OK. Thank you.

Let me just say, you argue persuasively that the Bureau of Labor Statistics has made adjustments to the CPI to reduce much of the formula bias problems. You make a strong argument, but how do you account for the fact that many of your colleagues disagree with you, including the advisory commission? Why do you think they disagree?

Ms. ABRAHAM. Different people can look at the same evidence and end up reaching different conclusions about it.

Mr. TOWNS. That further points out what Mr. Sanders said. That part sort of frightens me.

Ms. ABRAHAM. Let me try to be clear on that. There are some pieces of what has been looked at that I think there is general agreement about. The CPI is tracking the cost of a fixed market basket of goods and services, and we know that that's going to tend to mean, because it doesn't take substitution behavior into account, it's going to tend to overstate what's happening to the cost of living. We can agree about that.

We also can agree about how to measure that effect. I don't have numbers at this point. By the end of the year, when we've made our decisions about the use of the geometric mean formula in the index, we will have an estimate of both upper level and lower level substitution bias. I think, at that point, we will not only be able to agree there's an issue, we will be able to agree on the magnitude of the associated bias.

It's when you get into talking about things like quality change, new goods, new kinds of outlets that different people looking at the evidence can end up in a different place. From my point of view, the evidence is quite sparse, and it's hard to draw firm conclusions.

Mr. TOWNS. Let me go to my real question, and then I am going to yield.

Ms. ABRAHAM. These were just warm-ups?

Mr. TOWNS. As we talk, right as we speak, the leadership of our Nation are currently considering legislative changes to the CPI. As a way to reduce the Federal budget deficit, what would you recommend to these negotiators?

Ms. ABRAHAM. I would have no recommendation. My role, as I see it, is to try to describe, as accurately as I can, what kind of a measure the Consumer Price Index is, if that's something people are interested in. It would not be appropriate for me to get involved in discussions about how that measure was going to be used.

Mr. TOWNS. Let me try one other thing. Let me try one other way, Mr. Chairman.

Mr. SNOWBARGER. Good luck.

Mr. TOWNS. Thank you.

What would a downward adjustment of the CPI of 1.1 percentage points per year, as recommended by the advisory commission, mean for middle-income families, senior citizens, and the poor?

Ms. ABRAHAM. That's not something we've done any calculations on. The Congressional Budget Office might have done such calculations or the Council of Economic Advisers. You would have to go to someone else. We don't have that sort of information. That gets into the use of the index, and that's not something we're really involved in.

Mr. TOWNS. Mr. Chairman, I yield back.

Mr. SNOWBARGER. Thank you, Mr. Towns.

I would announce to the committee that we are going to go with 10 minutes worth of questioning. I think I overstepped my time limit, so we will grant that to everyone else. And with Chairman Shays' approval, I think we will go on down the line.

Mr. Waxman, would you care to question?

Mr. WAXMAN. Thank you very much.

Today's newspapers report that, in the budget negotiations, there is talk about building in an assumption about what the CPI adjustment may be, based on your recommendations yet to be determined.

Ms. ABRAHAM. So I read in the paper.

Mr. WAXMAN. And there has even been talk about a 0.5 reduction. Do you know what professional judgment went into the conclusion by some people in these negotiations that there ought to be a 0.5 reduction?

Ms. ABRAHAM. No, I don't.

Mr. WAXMAN. Were you consulted on this number?

Ms. ABRAHAM. I certainly have had conversations with other officials in the executive branch and on the Hill concerning things we have planned, what the potential impact of things we have planned on the index might be, things that we are unlikely to be able to correct in the monthly index, and what the bias associated with those things might be. I'm thinking of the upper level substitution bias, in particular.

I don't know what the basis for someone thinking that things we would do would slow the rate of growth of the index by half a percent per year might be.

Mr. WAXMAN. Well, it seems unusual to me that the people who are the technical experts are now being consulted but not listened to. And it appears it's a political judgment that may be made in these negotiations.

You indicated, if there is no change in the law that mandates a different adjustment, you may be coming up with an update of the CPI including use of a geometric mean index, and this may reduce the CPI, if at all, up to a quarter percentage point. Is that correct?

Ms. ABRAHAM. Probably not that much. I say that for the reason that it's unlikely that we would adopt the geometric mean formula across the board. It would be slowing the index by a quarter percent per year if we did adopt it across the board.

Mr. WAXMAN. So that would be the maximum we might possibly see.

Ms. ABRAHAM. Based on the evidence we have as to the effect of doing that, that's right.

Mr. WAXMAN. And then would this change be incorporated into the CPI?

Ms. ABRAHAM. Yes, it would.

Mr. WAXMAN. Could you walk me through the timing of that? You indicated you are going to make some announcement in January 1998.

Ms. ABRAHAM. We hope by the end of this year, this calendar year, so December 1997 or January 1998, to be able to make an announcement as to the change we have decided upon. We would, at that point, be able to provide an estimate, based on historical experience, of the likely impact of what we're proposing to do on the growth rate of the index.

Our historical practice is to give users of the data substantial advance notice of changes we're going to make in the CPI, to consult with our business and labor research advisory committees. It has also been our historical practice to make changes effective with data for January, so that it's at the start of a calendar year. Following that precedent, I would think the most likely date for making a change would be January 1999.

Mr. WAXMAN. If you made that change in January 1999, would it be fair to say that the earliest savings would be incorporated in the year 2000, or later?

Ms. ABRAHAM. I have, to be honest, only a limited understanding of how all of these indexation formulas work. Based on what I know, that sounds correct.

Mr. WAXMAN. So we see no budget savings to be realized as a result of any adjustment in 1998 or 1999, and therefore any budget agreement that contains budget savings of 0.4 or 0.5 percent reductions in CPI in 1998 and 1999, would result not from a BLS decision but from a political decision by the budget negotiators.

Ms. ABRAHAM. I can't think of anything that we are likely to do that would have any immediate impact on the rate of growth of the CPI, other than introducing the new, updated market basket in January 1998, which we announced a long time ago, and which I think is already well taken into account in people's thinking about the budget.

Mr. WAXMAN. So would you agree that, if there is to be savings in a CPI adjustment, it would have to be through legislation that mandates it, not through BLS?

Ms. ABRAHAM. As I said, there is nothing that we have planned between now and January 1999, that I would anticipate would have an impact on the rate of growth of the index.

Mr. WAXMAN. Thank you very much.

Thank you, Mr. Chairman. I yield back the balance of my time.

[The information referred to follows:]

JUN 17 1997

Honorable Henry Waxman
House of Representatives
Washington, D.C. 20515

Dear Congressman Waxman:

At the April 30 hearing of the Subcommittee on Human Resources of the House Committee on Government Reform and Oversight, you asked about the trends in earnings of workers in different parts of the earnings distribution.

I have enclosed two charts and several tables containing data on workers' earnings that you may find of interest. The data are from the Current Population Survey (CPS), a monthly survey of some 50,000 households. Since 1979 a subset of those responding to the survey each month have been asked to report their usual weekly earnings.

Enclosure 1 is a chart that shows median usual weekly earnings of full-time wage and salary workers aged 25 years and over by educational attainment, for each year from 1979 through 1996 in constant (1996) dollars. In 1979, college graduates earned 38 percent more than high school graduates ($743 versus $538, in 1996 dollars). By 1996, the percentage advantage in earnings enjoyed by college graduates as compared to high school graduates had risen to 71 percent ($758 versus $443, again in 1996 dollars). Enclosures 2A and 2B contain the data that were used in the chart, together with some additional information. You will notice that the educational attainment categories changed slightly in 1992. This change had a modest effect on the comparability of data in particular educational categories over time.

Enclosure 3 is a chart that shows weekly earnings of full-time wage and salary workers aged 25 years and over at the upper limits of the first, fifth, and ninth deciles of the earnings distribution, for each year from 1979 to 1996 in constant (1996) dollars. At the first decile level of earnings, for example, ten percent of a given population earn less and ninety percent earn more. Between 1979 and 1996, the ratio of earnings at the 90th percentile of the earnings distribution to earnings at the 10th percentile rose from 3.65 ($1,065 divided by $292) to 4.45 ($1,113 divided by $250). Enclosure 4 shows a distribution of usual weekly earnings of full-time wage and salary

JUN 17 1997

workers aged 25 years and over by sex at the upper limits of selected deciles and quartiles, in both current and constant (1996) dollars.

If you have any questions about these data, please let me know, or have a member of your staff call Philip Rones of my staff on 202-606-6378.

Sincerely yours,

Katharine G. Abraham
Commissioner

Enclosures

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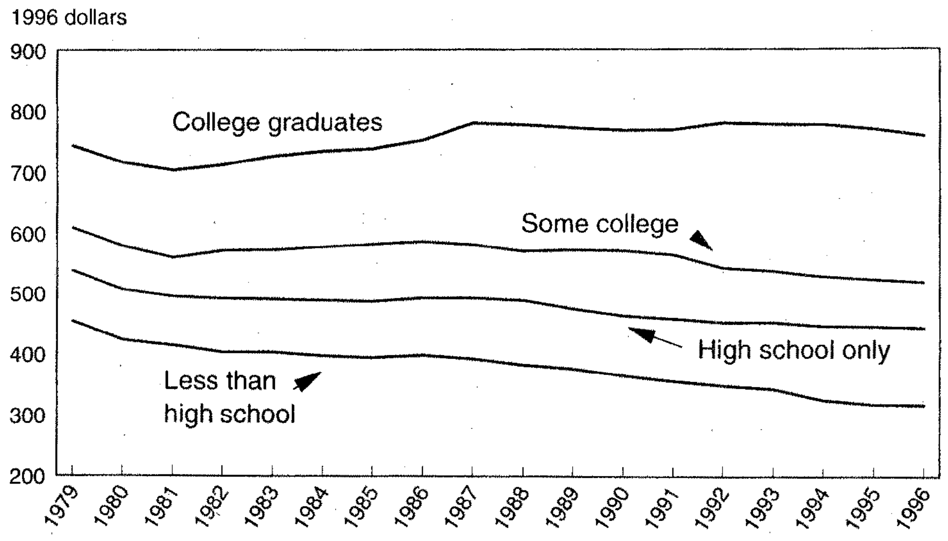
Chart 1. Median usual weekly earnings by educational attainment, 1979-1996, in constant (1996) dollars



*Median usual weekly earnings of full-time wage and salary workers 25 years and over

NOTE Since 1992, data on educational attainment have been based on the "highest diploma or degree received" rather than the "number of years of school completed." Data for 1994 forward are not directly comparable

Enclosure 2A

Table 1A. Median usual weekly earnings of full-time wage and salary workers 25 years and over by sex and educational attainment, annual averages, 1976-96 in current dollars

Total, both sexes

			4 years of high school or more						
								College, 4 years or more	
Year	Total	Less than 4 years of high school	Total	High school, 4 years only	College, 1 to 3 years			Total	4 years only
1979	$265	$210	$280	$249	$282			$344	$320
1980	286	222	302	266	304			376	352
1981	308	240	324	286	324			407	385
1982	327	248	349	302	351			438	410
1983	343	256	365	311	363			461	423
1984	362	263	382	323	382			486	454
1985	379	270	398	333	399			506	481
1986	391	278	410	344	409			525	497
1987	403	284	422	356	421			564	513
1988	414	288	438	368	430			585	527
1989	427	297	457	375	452			609	563
1990	450	304	478	386	476			639	595
1991	468	309	491	398	490			667	608

			High school graduate or more						
					Some college or associate degree			College graduates	
	Total	Less than a high school diploma	Total	High school graduates, no college	Total	Some college, no degree	Associate degree	Total	Bachelor's degree
1992	$480	$312	$499	$404	$485	$475	$509	$697	$640
1993	493	316	512	416	495	484	519	716	661
1994	500	307	522	421	499	487	522	733	670
1995	510	309	538	432	508	496	537	747	686
1996	520	317	556	443	518	504	556	758	697

NOTE: Since 1992, data on educational attainment have been based on the "highest diploma or degree received" rather than the "number of years of school completed." Data for 1994 forward are not directly comparable with data for 1993 and earlier years due to the CPS redesign.

Source: Bureau of Labor Statistics, Current Population Survey.

Table 1A. Median usual weekly earnings of full-time wage and salary workers 25 years and over by sex and educational attainment, annual averages, 1979-96 in current dollars

Total, men

Year	Total	Less than 4 years of high school	4 years of high school or more						
			Total	High school, 4 years only	College, 1 to 3 years			College, 4 years or more	
								Total	4 years only
1979	$314	$252	$334	$308	$329			$396	$381
1980	339	267	363	327	358			427	411
1981	372	286	393	356	389			475	453
1982	393	293	415	374	411			503	489
1983	407	301	430	388	422			518	500
1984	422	308	453	399	446			562	523
1985	443	314	476	407	472			590	557
1986	463	321	488	416	485			618	587
1987	477	324	499	423	497			653	608
1988	487	332	510	437	503			679	621
1989	500	346	523	450	517			705	650
1990	514	352	549	460	544			742	685
1991	525	352	569	472	565			766	706

	Total	Less than a high school diploma	High school graduate or more						
			Total	High school graduates, no college	Some college or associate degree			College graduates	
					Total	Some college, no degree	Associate degree	Total	Bachelor's degree
1992	$539	$355	$579	$480	$557	$541	$587	$793	$736
1993	559	360	592	488	574	564	591	807	757
1994	576	342	607	496	587	578	607	826	756
1995	588	347	618	507	596	588	613	845	771
1996	599	357	631	516	604	593	625	874	795

NOTE: Since 1992, data on educational attainment have been based on the "highest diploma or degree received" rather than the "number of years of school completed." Data for 1994 forward are not directly comparable with data for 1993 and earlier years due to the CPS redesign.

Source: Bureau of Labor Statistics, Current Population Survey.

Table 1A Median usual weekly earnings of full-time wage and salary workers 25 years and over by sex and educational attainment, annual averages, 1979-96 in current dollars

Total, women

Year	Total	Less than 4 years of high school	4 years of high school or more						
			Total	High school, 4 years only	College, 1 to 3 years			College, 4 years or more	
								Total	4 years only
1979	$195	$152	$206	$185	$211			$264	$244
1980	213	164	224	201	231			290	269
1981	233	175	247	217	255			318	294
1982	255	184	269	236	274			346	318
1983	268	195	282	246	288			369	338
1984	283	200	298	259	305			390	362
1985	296	202	311	268	317			414	385
1986	308	208	323	277	330			436	401
1987	321	214	340	288	347			466	423
1988	335	221	355	298	360			485	444
1989	351	231	371	304	379			507	468
1990	370	241	389	315	395			536	499
1991	388	250	405	329	409			563	511

	Total	Less than a high school diploma	High school graduate or more						
			Total	High school graduates, no college	Some college or associate degree			College graduates	
					Total	Some college, no degree	Associate degree	Total	Bachelor's degree
1992	$400	$256	$416	$337	$408	$395	$445	$594	$545
1993	416	264	435	348	423	407	471	611	573
1994	421	257	442	351	423	408	461	634	587
1995	428	262	451	356	427	412	468	644	598
1996	444	268	466	365	442	423	482	657	608

NOTE: Since 1992, data on educational attainment have been based on the "highest diploma or degree received" rather than the "number of years of school completed." Data for 1994 forward are not directly comparable with data for 1993 and earlier years due to the CPS redesign.

Source: Bureau of Labor Statistics, Current Population Survey.

Enclosure 2B

Table 1B. Median usual weekly earnings of full-time wage and salary workers 25 years and over by sex and educational attainment, annual averages, 1979-96, in constant (1996) dollars

Total, both sexes

Year	Total	Less than 4 years of high school	4 years of high school or more						
			Total	High school 4 years only	College, 1 to 3 years	▨	▨	College, 4 years or more	
								Total	4 years
1979	$573	$454	$605	$538	$609			$743	[illegible]
1980	$545	$423	$575	$506	$579			$716	[illegible]
1981	$532	$414	$559	$494	$559			$703	[illegible]
1982	$532	$403	$567	$491	$571			$712	[illegible]
1983	$540	$403	$575	$490	$572			$726	[illegible]
1984	$547	$397	$577	$488	$577			$734	[illegible]
1985	$553	$394	$580	$486	$582			$738	[illegible]
1986	$560	$398	$587	$492	$586			$752	[illegible]
1987	$557	$392	$583	$492	$581			$779	[illegible]
1988	$549	$382	$581	$488	$570			$776	[illegible]
1989	$540	$376	$578	$474	$572			$771	[illegible]
1990	$540	$365	$574	$463	$571			$767	[illegible]
1991	$539	$356	$566	$458	$564			$768	[illegible]

	Total	Less than a high school diploma	High school graduate or more						
			Total	High school graduates, no college	Some college or associate degree			College graduates	
					Total	Some college, no degree	Associate degree	Total	Bachelor's degree
1992	$537	$349	$558	$452	$542	$531	$569	$779	[illegible]
1993	$535	$343	$556	$452	$537	$526	$564	$777	[illegible]
1994	$529	$325	$553	$446	$528	$516	$553	$776	[illegible]
1995	$525	$318	$554	$445	$523	$511	$553	$769	[illegible]
1996	$520	$317	$556	$443	$518	$504	$556	$758	[illegible]

NOTE: Since 1992, data on educational attainment have been based on the "highest diploma or degree received" rather than the "number of years of school completed." Data for 1994 forward are not directly comparable with data for 1993 and earlier years due to the CPS redesign. Constant dollar median earnings were calculated using the CPI U as the deflator for the current dollar median earnings series.

Source. Bureau of Labor Statistics, Current Population Survey.

Table 1B. Median usual weekly earnings of full-time wage and salary workers 25 years and over by sex and educational attainment, annual averages, 1979-96 in constant (1996) dollars

Total, men

			4 years of high school or more						
								College, 4 years or more	
Year	Total	Less than 4 years of high school	Total	High school, 4 years only	College, 1 to 3 years			Total	4 years only
1979	$679	$545	$722	$666	$711			$856	$823
1980	$645	$508	$691	$623	$682			$813	$783
1981	$642	$494	$678	$614	$671			$820	$782
1982	$639	$476	$675	$608	$668			$818	$795
1983	$641	$474	$677	$611	$665			$816	$788
1984	$637	$465	$684	$603	$674			$849	$790
1985	$646	$458	$694	$593	$688			$860	$812
1986	$663	$460	$699	$596	$694			$885	$840
1987	$659	$447	$689	$584	$686			$902	$840
1988	$646	$440	$676	$580	$667			$901	$824
1989	$633	$438	$662	$569	$654			$892	$822
1990	$617	$423	$659	$552	$653			$891	$822
1991	$605	$405	$655	$544	$651			$882	$813
			High school graduate or more						
					Some college or associate degree			College graduates	
	Total	Less than a high school diploma	Total	High school graduates, no college	Total	Some college, no degree	Associate degree	Total	Bachelor's degree
1992	$603	$397	$648	$537	$623	$605	$656	$887	$823
1993	$607	$391	$643	$530	$623	$612	$642	$876	$822
1994	$610	$362	$643	$525	$621	$612	$643	$874	$800
1995	$605	$357	$636	$522	$614	$605	$631	$870	$794
1996	$599	$357	$631	$516	$604	$593	$625	$874	$795

NOTE: Since 1992, data on educational attainment have been based on the "highest diploma or degree received" rather than the "number of years of school completed." Data for 1994 forward are not directly comparable with data for 1993 and earlier years due to the CPS redesign. Constant dollar median earnings were calculated using the CPI-U as the deflator for the current dollar median earnings series.

Source: Bureau of Labor Statistics, Current Population Survey.

Table 18 Median usual weekly earnings of full-time wage and salary workers 25 years and over by sex and educational attainment, annual averages, 1979-96 in constant (1996) dollars

Total, women

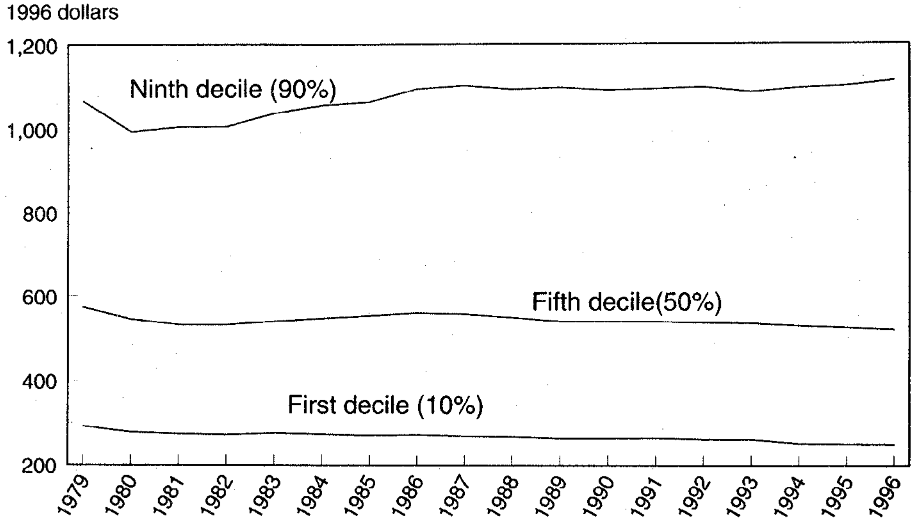
			4 years of high school or more						
								College, 4 years or more	
Year	Total	Less than 4 years of high school	Total	High school, 4 years only	College, 1 to 3 years			Total	4 years only
1979	$421	$328	$445	$400	$456			$571	$527
1980	$406	$312	$427	$383	$440			$552	$512
1981	$402	$302	$426	$375	$440			$549	$507
1982	$415	$299	$437	$384	$445			$563	$517
1983	$422	$307	$444	$388	$454			$581	$532
1984	$427	$302	$450	$391	$461			$589	$547
1985	$432	$295	$453	$391	$462			$604	$561
1986	$441	$298	$462	$397	$472			$624	$574
1987	$443	$296	$470	$398	$479			$644	$584
1988	$444	$293	$471	$395	$477			$643	$589
1989	$444	$292	$469	$385	$480			$642	$592
1990	$444	$289	$467	$378	$474			$643	$599
1991	$447	$288	$467	$379	$471			$649	$589
			High school graduate or more						
					Some college or associate degree			College graduates	
	Total	Less than a high school diploma	Total	High school graduates, no college	Total	Some college, no degree	Associate degree	Total	Bachelor's degree
1992	$447	$286	$465	$377	$456	$442	$498	$664	$609
1993	$452	$287	$472	$378	$459	$442	$511	$663	$622
1994	$446	$272	$468	$372	$448	$432	$488	$671	$62[illegible]
1995	$441	$270	$464	$367	$440	$424	$482	$663	$616
1996	$444	$268	$466	$365	$442	$423	$482	$657	$605

NOTE. Since 1992, data on educational attainment have been based on the "highest diploma or degree received" rather than the "number of years of school completed." Data for 1994 forward are not directly comparable with data for 1993 and earlier years due to the CPS redesign. Constant dollar median earnings were calculated using the CPI-U as the deflator for the current dollar median earnings series.

Source: Bureau of Labor Statistics, Current Population Survey.

Enclosure 3

Chart 2. Weekly earnings* at upper limits of first, fifth, and ninth deciles, 1979-1996, in constant (1996) dollars



*Usual weekly earnings of full-time wage and salary workers 25 years and over

Note: Data, beginning in 1994, are not directly comparable with data for 1993 and earlier because of the introduction of a major redesign of the Current Population Survey questionnaire and collection methodology and the use of 1990 Census-based population controls, adjusted for the estimated undercount.

Table 2. Usual weekly earnings of full-time wage and salary workers 25 years and over, by upper limits of selected quartiles and deciles, 1979-96 annual averages

Total, both sexes

	Upper limit of:					Upper limit of:					
Year	First decile	First quartile	Second quartile (median)	Third quartile	Ninth decile	First decile	First quartile	Second quartile (median)	Third quartile	Ninth decile	CPI-U (1982-84=100)
	In current dollars					In constant (1996) dollars					
1979	$135	$185	$265	$369	$493	$292	$400	$573	$797	$1,065	72.6
1980	$146	$199	$286	$399	$522	$278	$379	$545	$760	$994	82.4
1981	$159	$215	$308	$430	$582	$274	$371	$532	$742	$1,005	90.9
1982	$167	$228	$327	$467	$619	$272	$371	$532	$759	$1,006	96.5
1983	$175	$238	$343	$487	$658	$276	$375	$540	$767	$1,037	99.6
1984	$181	$249	$362	$507	$699	$273	$376	$547	$766	$1,056	103.9
1985	$185	$258	$379	$522	$730	$270	$376	$553	$761	$1,064	107.6
1986	$190	$267	$391	$550	$764	$272	$382	$560	$787	$1,094	109.6
1987	$195	$277	$403	$577	$798	$269	$383	$557	$797	$1,102	113.6
1988	$202	$285	$414	$596	$824	$268	$378	$549	$790	$1,093	118.3
1989	$209	$293	$427	$617	$867	$264	$371	$540	$781	$1,097	124.0
1990	$220	$304	$450	$646	$909	$264	$365	$540	$775	$1,091	130.7
1991	$230	$314	$468	$674	$950	$265	$362	$539	$776	$1,094	136.2
1992	$234	$321	$480	$694	$982	$262	$359	$537	$776	$1,098	140.3
1993	$241	$331	$493	$716	$1,000	$262	$359	$535	$777	$1,086	144.5
1994	$238	$331	$500	$738	$1,035	$252	$350	$529	$781	$1,096	148.2
1995	$244	$339	$510	$754	$1,069	$251	$349	$525	$776	$1,101	152.4
1996	$250	$348	$520	$771	$1,113	$250	$348	$520	$771	$1,113	156.9

NOTE: Since 1992, data on educational attainment have been based on the "highest diploma or degree received" rather than the "number of years of school completed." Data for 1994 forward are not directly comparable with data for 1993 and earlier years due to the CPS redesign. Constant dollar earnings were calculated using the CPI-U as the deflator for the current dollar earnings series.

Table 2. Usual weekly earnings of full-time wage and salary workers 25 years and over, by upper limits of selected quartiles and deciles, 1979-96 annual averages

Total, men

	Upper limit of:					Upper limit of:					
Year	First decile	First quartile	Second quartile (median)	Third quartile	Ninth decile	First decile	First quartile	Second quartile (median)	Third quartile	Ninth decile	CPI-U (1982-84=100)
	In current dollars					In constant (1996) dollars					
1979	$171	$231	$314	$415	$542	$370	$499	$679	$897	$1,171	72.6
1980	$183	$249	$339	$455	$598	$348	$474	$645	$866	$1,139	82.4
1981	$194	$269	$372	$493	$647	$335	$464	$642	$851	$1,117	90.9
1982	$200	$281	$393	$519	$707	$325	$457	$639	$844	$1,150	96.5
1983	$205	$289	$407	$548	$752	$323	$455	$641	$863	$1,185	99.6
1984	$213	$299	$422	$582	$785	$322	$452	$637	$879	$1,185	103.9
1985	$218	$308	$443	$604	$816	$318	$449	$646	$881	$1,190	107.6
1986	$224	$316	$463	$624	$867	$321	$452	$663	$893	$1,241	109.6
1987	$231	$324	$477	$656	$911	$319	$447	$659	$906	$1,258	113.6
1988	$237	$334	$487	$683	$971	$314	$443	$646	$906	$1,288	118.3
1989	$244	$343	$500	$707	$985	$309	$434	$633	$895	$1,246	124.0
1990	$254	$358	$514	$735	$1,006	$305	$430	$617	$882	$1,208	130.7
1991	$261	$366	$525	$758	$1,022	$301	$422	$605	$873	$1,177	136.2
1992	$264	$373	$539	$777	$1,078	$295	$417	$603	$869	$1,206	140.3
1993	$272	$383	$559	$799	$1,117	$295	$416	$607	$868	$1,213	144.5
1994	$270	$382	$576	$828	$1,160	$286	$404	$610	$877	$1,228	148.2
1995	$276	$391	$588	$850	$1,201	$284	$403	$605	$875	$1,236	152.4
1996	$279	$398	$599	$874	$1,236	$279	$398	$599	$874	$1,236	156.9

NOTE: Since 1992, data on educational attainment have been based on the "highest diploma or degree received" rather than the "number of years of school completed." Data for 1994 forward are not directly comparable with data for 1993 and earlier years due to the CPS redesign. Constant dollar earnings were calculated using the CPI-U as the deflator for the current dollar earnings series.

Mr. SNOWBARGER. Mr. Shays.

Mr. SHAYS. Mr. Chairman, I got here late because I was testifying before some other committees. I'm really happy to have my colleagues ask questions. I would suggest this is such important testimony that Members may want to have a second round. So I'm not asking to get the last word, but I will let my colleagues go ahead of me.

Mr. SNOWBARGER. OK.

Mr. Sanders.

Mr. SANDERS. Thank you very much, Mr. Chairman.

Let me restate a concern that I have. I think that it is not an accident that there is such a preoccupation with the CPI. I frankly believe, as others have implied, that this is a back-door way to balance the budget. I think it's a cheap way. I think it's a vulgar way. And I think it's going to come down on the backs of the elderly and the poor, rather than look at corporate welfare, military spending, tax breaks for the rich.

There are some people who think they can save a few bucks by telling a senior citizen in Vermont, who is trying to survive on $7,000 a year, "We can take away $100 from you." And I think that stinks.

No. 2, I wrote to Bob Reich a while ago, because this whole issue of how you develop statistics is so very important. We hear a whole lot of statistics floating out there. And what we've been hearing for the last year, every time you read the newspaper, is, the economy is booming. Right? The economy is doing great.

Yesterday we learned that the CEOs of major corporations saw a 54 percent increase in their compensation. So I'm sure the economy is doing very well for them. And yet I read today, on page A–22 of the Washington Post, about the Employment Cost Index. Now, that is, as I understand it, the cost that an employer incurs in terms of wages and benefits.

Now, what it says in the Washington Post, and the information comes from the Labor Department, is that for the 12 months ending in March, the ECI was up 2.9 percent, the same as for the year ended in December, 2.9 percent. That tells me that for workers, in fact, their total wages and benefits went below the cost of inflation.

What was inflation last year, over 3 percent?

Ms. ABRAHAM. I don't have those figures here.

Mr. SANDERS. I thought it was 3, 3.5 percent. Anyone have that?

Ms. ABRAHAM. No, it was not 3.5 percent; it was 3.3 percent.

Mr. SANDERS. OK. So, in fact—and here's the point, colleagues on the committee. When we hear so much about there's a booming economy, what these statistics tell us is that, for workers, their wages and benefits, in fact, did not even match inflation.

And if you take another step and understand that that's a mix of upper income employees, the CEOs, and your $20,000 or $15,000 a year employees who do worse, what you can probably argue is that, for low-wage employees, their standard of living has continued to decline precipitously.

Ms. ABRAHAM. The CEOs probably aren't in there, but I don't think that changes your basic point.

Mr. SANDERS. At what level would you go? Is the basic point that I'm making correct?

Ms. ABRAHAM. The basic point that the Employment Cost Index is an average across all wage and salary workers is correct.

Mr. SANDERS. OK. And if he makes $100,000 a year as a middle level manager, and I make $15,000 a year, you're going to average those two in. Statistics would indicate that the people who are making $100,000, even if they are not CEOs, are doing pretty well. Would it be fair to say that, based on these statistics, the average worker, say, making $25,000 a year or less, his or her compensation has not matched inflation?

Ms. ABRAHAM. There is some information in the Employment Cost Index on what's happening to the hourly costs of labor, for, for example, production workers, administrative workers. It's broken out by occupation. The rates of growth for the different occupation groups haven't looked terribly different.

Mr. SANDERS. All right. But based on these statistics, which say that overall it's a hair below inflation, combining everybody, everything that I have read indicates that the higher paid people are doing better than the lower paid people. Is my assumption correct that for, say, lower-paid workers, $25,000 a year or less, they are continuing to fall below the growth rate of inflation?

Ms. ABRAHAM. I'd want to take a look at the data, but you certainly are correct that over the period since the late 1970's, there have been increases in the inequality of earnings.

Mr. SANDERS. Well, the point that I'm trying to make is that every day we hear about how the economy is booming, and it seems to me, reading the statistics, what we're finding out is that perhaps for the majority of workers, their revenue, their compensation falls below the rate of inflation.

I would strongly urge, and I had urged this of Bob Reich, is that I think the one statistic—and I know your job is a very difficult job, it really is. I mean, having to balance southern California and northern Vermont, those are two different worlds, and you've got to come up with some match, and it's hard, I know that. And you probably get criticized no matter what you come up with.

But I would think that really what we need in this country is one statistic which tells us how the average working person is doing, and get that statistic out. Because I think there is a lot of confusion in matching the incomes of upper income people with the incomes of the vast majority of the people. You add them together, and you divide by half, you know. If I'm making $1 million a year and he's making $10,000 a year, on average, we're making a half million dollars a year, but our reality is a little bit different.

I think, if you did that, the statistics would show that the economy, despite what the President is saying, and despite what other people are saying, is not booming, but that the middle class and the working class of this country are hurting and hurting very badly.

I would hope very much you would work on that statistic. What is life like now? How is the average working person in this country doing, comparing compensation, what's coming in, and what they are paying for. I would hope that we can get that statistic.

The second point, picking up on a point that—and maybe we can talk about that at some other point.

Ms. ABRAHAM. I was going to say, we do have data that you might find of interest, and I would be happy to sit down to discuss it.

Mr. SANDERS. Are you advertising that data? Does it get into the newspapers much?

Ms. ABRAHAM. We have very little control over what gets into the newspapers, sir.

Mr. SANDERS. Well, what I hear is that the economy is booming, and I would perhaps like some statistics to suggest that, for the working class of this country, the economy is not booming.

Ms. ABRAHAM. I don't know what the statistics suggest precisely, but we do have information that you might find of interest on earnings by decile of the earnings distribution, and so on.

Mr. SANDERS. I will give you a ring, and perhaps we can discuss that.

Ms. ABRAHAM. Good.

Mr. SANDERS. OK. Now, my third point again, picking up on the point Mr. Towns made a while back, if we just look at the issue of Social Security and 35 million Americans who receive Social Security, many of them are heavily dependent upon that Social Security check. And it would seem to me to be incumbent upon the Bureau to come up with some good statistics for those folks. And if it requires some money to do that type of study, then I think we should invest that money.

I think, as Mr. Towns and many people have pointed out, there is at least some evidence to suggest that because seniors are more dependent upon health care, seniors need warmer homes, for example—you know, when you get old, you need to keep your house a little bit warmer—that what seniors depend upon may be going up faster than the general cost of inflation.

Given that we have 35 million people on Social Security, I think that that is an area that we can focus on. Can we expect some work in that area of devoting money and energy to come up with a good statistic for seniors?

Ms. ABRAHAM. That's certainly something we could go back and take another look at. This was discussed, it is my understanding, at the time that Congress first expressed an interest in a CPI for the elderly. I don't know the ins and outs of why it was not decided to go forward with a separate index. As I did indicate, it would have amounted to essentially duplicating our entire program of producing the CPI. For whatever reason, we didn't end up doing that.

Mr. SANDERS. Let me ask you a question: When you come up with the CPI, which impacts on Social Security, correct?

Ms. ABRAHAM. Mm-hmm.

Mr. SANDERS. How many seniors do you get information from?

Ms. ABRAHAM. Our samples of people who are surveyed for the consumer expenditure surveys are a rolling panel of about 5,000 households, and seniors would be represented in those samples in proportion to their share of the urban population.

Mr. SANDERS. Which is? This is urban, which is roughly what?

Ms. ABRAHAM. It's the urban population, which is about 80 percent of the total population. But I should add to that, when I said that they would be represented; we then take expenditure weights from that overall survey and use them to construct the CPI.

We actually have two CPIs. We have a CPI for all urban consumers, and we have a CPI for urban wage earners and clerical workers.

Older people's expenditures, older urban consumers' expenditures, are represented in proportion to their share of total expenditures in the CPI–U, which is used, for example, to adjust tax brackets.

Mr. SHAYS. Excuse me. I'm sorry to interrupt. Could someone just shut the door.

Ms. ABRAHAM. We also have a separate CPI for urban wage earners and clerical workers, which includes essentially no elderly individuals. For reasons of historical accident, that's the index that gets used to adjust Social Security. So older people are not represented at all in that index.

Mr. SANDERS. I would think—I mean, unless I'm missing something here—that given, again, the fact that we have 35 million seniors, I think that they deserve to have an independent assessment of their particular needs, which I happen to think will show that the CPI underestimates their needs.

I would hope very much that that's something that we can move toward. And if it requires extra money—I know some of us have talked about that—we're prepared to vote for that money for the studies that you may need. But I think that we do need an independent look at the needs of our seniors.

With that, I yield back. Thank you, Mr. Chairman.

Mr. SNOWBARGER. Mr. Barrett.

Mr. BARRETT. Thank you. Thank you for holding this hearing.

One of the things that surprised me was your comment that, if you were going to do a separate study for seniors, you would have to duplicate the entire survey. It strikes me as though there is a core element of products or of living costs that are going to be consistent regardless of your age, and that you would make some additions and some subtractions, based on a person's age.

Ms. ABRAHAM. It may be, if we really got into it, that we could find some overlap of that sort. What I had in mind when I said that was that we would have to greatly expand our consumer expenditure survey to get a better fix on how elderly individuals spend their money. We would have to do a separate or at least much augmented survey to find out where they shop. When we went into stores, we might find ourselves in many of the same stores, but we might find ourselves in different stores. It might be that, when we went into the stores that overlap, we would find elderly consumers buying the same things; it might be that we wouldn't.

So you are right that there might be some overlap in the end in what we ended up tracking, but we would have to do separately a lot of the work that would be involved.

Mr. BARRETT. I'm going to show my ignorance about the Consumer Price Index. For example, housing, what are the factors? Is it mortgage rates or rents?

Ms. ABRAHAM. No. This may be something I should have mentioned when Mr. Snowbarger was asking earlier about how we responded to the Stigler Committee report. We used to track housing costs by tracking the kinds of things you are referring to, looking at actual outlays on housing, if you will.

But that proved to be unsatisfactory, for a variety of reasons, and a decision was made in the late 1970's, and then implemented in the early 1980's, to move to a so-called "rental equivalence" approach to tracking housing costs. This essentially means that, for people who own their own homes, we try to match those housing units up with rental units, and track what's happening to the cost of the rental units. What we're saying, in effect, is that the cost of living in their own home is the amount of rent that they are giving up by not renting it out.

In the long run, if mortgage rates went up, that presumably would affect the rents that get charged in the housing market and then would show up in our measure. But it's not a one-for-one thing. We don't track interest rates directly, for example.

Mr. BARRETT. That confuses me even more. You can see why I'm not a statistician.

Ms. ABRAHAM. It's very complicated.

Mr. BARRETT. So if you're in an area where there is a rapidly increasing housing market, how is that reflected then?

Ms. ABRAHAM. Where prices of homes are going up?

Mr. BARRETT. Right.

Ms. ABRAHAM. That would be reflected, indirectly, to the extent that it showed up in higher rents being charged for rented housing units in that area.

Mr. BARRETT. OK.

Ms. ABRAHAM. If it didn't show up in rents, it wouldn't be reflected in our measure.

Mr. BARRETT. OK. Again—and excuse me for trying to understand this, which may be dangerous—if you live in the area—I represent, part of Milwaukee, and we have suburban areas where the price of housing is going up. We have elderly who don't live in those units, primarily. They will live in areas where the price of housing is stagnant or even dropping. What type of bias will that create?

Ms. ABRAHAM. For the measurement of housing costs for the elderly?

Mr. BARRETT. For the measurement, yes.

Ms. ABRAHAM. Well, the CPI is really an average measure. So it would track the average, what was happening to rents on average, but it isn't necessarily going to give you a very good reflection of what's happening to rents for particular groups.

Mr. BARRETT. OK.

Ms. ABRAHAM. Which is true, in general, about the CPI. It's an average. It doesn't necessarily reflect the experience of particular groups.

Mr. BARRETT. You mentioned, or I thought I heard you mention, that the substitution factor index would overstate.

Ms. ABRAHAM. Because the CPI doesn't take into account consumers' ability to substitute.

Mr. BARRETT. Give me an example, please.

Ms. ABRAHAM. Perhaps a small example, if consumers are purchasing two kinds of lettuce, they are purchasing Romaine lettuce and red leaf lettuce. And if, for some reason, the relative price of Romaine lettuce goes up, they would buy less Romaine lettuce and more red leaf lettuce.

What that would mean is that, in order to get lettuce that gave them the same value, if you will, they wouldn't have to spend as much in total lettuce as they would have if they had just kept buying the same amounts of Romaine and red leaf lettuce as they bought to begin with.

Mr. BARRETT. So does your original index just use generic lettuce?

Ms. ABRAHAM. No, we price specific items. So we might be tracking the cost of, you know, a pound of Romaine lettuce. That might be one of the specific items in the index. So we wouldn't take that kind of substitution into account in our index.

That's the reason why we're looking at possibly adopting a new formula, the geometric mean formula for constructing the subindexes in the CPI. At least under certain assumptions, it would give us a better approximation as to what consumers were actually doing at that level.

Mr. BARRETT. I also heard, when Mr. Waxman was asking questions about your timetable and the analysis that you have done, I thought I heard you mention the figure a quarter of a percent. Is that accurate?

Ms. ABRAHAM. That's correct.

Mr. BARRETT. And you were referring there to what?

Ms. ABRAHAM. I was referring there to the upper bound on the potential impact on the rate of growth of the index of our switching over to using this new geometric mean formula in putting together the subindexes. If we did it in all parts of the index, our research indicates that the rate of growth of the index would slow by about a quarter percent per year.

We are unlikely to adopt it in all parts of the index. There are some components where it seems appropriate. If relative prices of Romaine and red leaf lettuce change, people will substitute. For prescription drugs, it's probably not appropriate. If the price of ulcer medication goes down and the price of heart medication goes up, the fact that ulcer medication costs less doesn't help me much if I'm a heart patient.

Mr. BARRETT. OK. But you're saying overall the change will be a quarter percent?

Ms. ABRAHAM. Overall, the change will be something less than a quarter percent per year, because we won't make the change across the board, most likely.

Mr. BARRETT. OK. And, again, now shifting gears to the political world, the article that referred to a 0.4 or 0.5 change, is one of the articles that I saw. Is it accurate to say, then, that any change—and we will use a quarter of a percent, or 0.25 percent—beyond that would be more of an arbitrary decision?

Ms. ABRAHAM. Not necessarily. There isn't anything that we are likely to do in the CPI itself that would take effect right away or that would have as large an effect as—I don't know where this 0.4 number is coming from.

It is, however, well agreed, and I would agree, that the CPI tends to be an upper bound on what's happening to the cost of living, because it doesn't take substitution behavior into account. We will have an estimate by the end of the year of how big we think the lower-level substitution bias is, although it will take us some time to implement the change we think is appropriate in the index.

We have now an estimate of how big the upper-level substitution bias is. That's substitution bias associated with shifts in consumption across item categories, in response to relative price change. That, for reasons you may or may not want to get into, is really not possible for us to deal with in the context of producing a monthly index. But we could give you an estimate, if you wished, of how big that is.

So there are some things, I think, where we can agree. We can even quantify what the bias in the CPI is. Going beyond that, I think, there is more dispersion of opinion.

Mr. BARRETT. You also mentioned that you're going to have a new market basket in January 1998. Can you tell me what the major changes are in the market basket?

Ms. ABRAHAM. Gosh, it's been a while since I looked at that. It's an updating of the expenditure shares from 1982 to 1984, to 1993 to 1995.

We've seen some increase in the share of consumer electronics, and related items, over that period. Personal computers, for example, weren't particularly important in 1982 to 1984, and they will be somewhat more important in the new market basket. Medical care, perhaps surprisingly, is a smaller share of out-of-pocket expenditures than it was in 1982 to 1984.

I can give you, for the record, if you would like, a more complete breakdown of how it's changed.

Mr. BARRETT. I would appreciate that.

I would yield back my time.

[The information referred to follows:]

JUN 05 1997

Honorable Thomas Barrett
House of Representatives
Washington, D.C. 20515

Dear Congressman Barrett:

At the April 30 hearing of the Subcommittee on Human Resources of the House Committee on Government Reform and Oversight, you requested detailed information on the anticipated change in the expenditure weights used in constructing the Consumer Price Index (CPI). As was discussed at the hearings, these weights will be updated effective with the data for January 1998, when the current weights based on 1982-84 consumer expenditures will be replaced with new weights based on 1993-95 expenditures.

Enclosure 1 contains the information you requested. This table shows the expenditure shares by major item category and for all 207 detailed item categories based upon the 1982-84 and preliminary 1993-95 urban consumer market baskets. The last column of the table shows the relative importance of each component in the CPI for All Urban Consumers as of December 1996; these are based on 1982-84 expenditure shares updated to reflect price change that has occurred since that time. Please note that the 1993-95 data show the current item structure, not the new item structure scheduled for introduction along with the updated weights at the time the January 1998 data are published. I also have enclosed a copy of the revised item structure, labeled Enclosure 2.

If you have any questions about these data, please let me know, or have a member of your staff call John Greenlees of my staff on 202-606-6950.

Sincerely yours,

Katharine G. Abraham
Commissioner

Enclosures

BLS/OCOM/Kerr/KGA/st -- 6/4/97
cc: Gen. F. Comm. R.F. Abraham Cong. Liaison Chron.

Enclosure 1

MARKET BASKET	[illegible] shares	[illegible]	[illegible]
All Items	100.0	100.0	100.0
Food and beverages	17.9	15.9	17.5
Food at home	*11.8*	*10.6*	*11.6*
Food away from home	*6.2*	*5.3*	*5.9*
Housing	41.8	43.5	41.1
Shelter	*25.7*	*28.5*	*28.2*
Housing less shelter	*16.1*	*14.9*	*13.0*
Apparel	6.5	6.0	5.3
Transportation	18.9	18.7	17.1
Motor Fuel	*4.9*	*3.2*	*3.2*
Medical care	5.0	5.8	7.3
Entertainment	4.5	4.5	4.4
Other goods and services	5.4	5.7	7.2

	MARKET BASKET			
SE01	**Cereal and Cereal Products**	**0.432**	**0.577**	**0.449**
SE0101	Flour and prepared flour mixes	0.084	0.071	0.077
SE0102	Cereal	0.238	0.348	0.272
SE0103	Rice, pasta, and cornmeal	0.110	0.158	0.100
SE02	**Bakery Products**	**0.928**	**0.968**	**1.031**
SE0201	White bread	0.231	0.130	0.261
SE0202	Fresh other bread, biscuits, rolls, and muffins	0.212	0.277	0.236
SE0204	Cookies, fresh cakes, and cupcakes	0.226	0.273	0.252
SE0206	Other bakery products	0.259	0.288	0.282
SE03	**Beef and Veal**	**1.141**	**0.820**	**0.955**
SE0301	Ground beef other than canned	0.443	0.314	0.317
SE0302	Chuck roast	0.094	0.046	0.086
SE0303	Round roast	0.062	0.051	0.051
SE0304	Other beef and veal	0.356	0.264	0.347
SE0305	Round steak	0.097	0.058	0.080
SE0306	Sirloin steak	0.089	0.087	0.074
SE04	**Pork**	**0.638**	**0.549**	**0.615**
SE0401	Bacon	0.116	0.076	0.115
SE0402	Chops	0.148	0.137	0.145
SE0403	Ham	0.144	0.135	0.143
SE0404	Other pork, including sausage	0.230	0.201	0.212
SE05	**Other meats**	**0.443**	**0.347**	**0.398**
SE0501	Other meats	0.443	0.347	0.398
SE06	**Poultry**	**0.437**	**0.490**	**0.453**
SE0601	Fresh whole chicken	0.143	0.088	0.149
SE0602	Fresh and frozen chicken parts	0.204	0.278	0.218
SE0603	Other poultry	0.090	0.124	0.086
SE07	**Fish and seafood**	**0.338**	**0.334**	**0.375**
SE0701	Canned fish and seafood	0.093	0.062	0.072
SE0702	Fresh and frozen fish and seafood	0.245	0.272	0.303
SE08	**Eggs**	**0.188**	**0.108**	**0.205**
SE0801	Eggs	0.188	0.108	0.205
SE09	**Fresh milk and cream**	**0.685**	**0.444**	**0.632**
SE0901	Fresh whole milk	0.396	0.194	0.365
SE0902	Other fresh milk and cream	0.289	0.250	0.267
SE10	**Processed dairy products**	**0.674**	**0.599**	**0.613**
SE1001	Other dairy products, including butter	0.125	0.116	0.106
SE1002	Cheese	0.376	0.309	0.348
SE1004	Ice cream and related products	0.173	0.174	0.159
SE11	**Fresh fruits**	**0.515**	**0.502**	**0.789**
SE1101	Apples	0.097	0.095	0.118
SE1102	Bananas	0.089	0.104	0.070
SE1103	Oranges, including tangerines	0.060	0.060	0.090
SE1104	Other fresh fruits	0.269	0.243	0.511
SE12	**Fresh vegetables**	**0.500**	**0.492**	**0.567**
SE1201	Potatoes	0.090	0.097	0.094
SE1202	Lettuce	0.068	0.065	0.066
SE1203	Tomatoes	0.076	0.077	0.089
SE1204	Other fresh vegetables	0.266	0.253	0.318
SE13	**Processed fruits**	**0.382**	**0.339**	**0.352**
SE1301	Fruit juices and frozen fruit	0.296	0.268	0.276
SE1303	Canned and dried fruits	0.086	0.071	0.076
SE14	**Processed vegetables**	**0.290**	**0.276**	**0.264**
SE1401	Frozen vegetables	0.097	0.097	0.086
SE1402	Other processed vegetables	0.193	0.179	0.178

SE15	**Sugar and sweets**	**0.369**	**0.385**	**0.331**
SE1501	Sweets, including candy	0.263	0.309	0.245
SE1502	Sugar and artificial sweeteners	0.106	0.076	0.086
SE16	**Fats and oils**	**0.274**	**0.281**	**0.246**
SE1601	Fats and oils	0.274	0.281	0.246
SE17	**Nonalcoholic drinks**	**0.905**	**0.824**	**0.724**
SE1701	Carbonated drinks	0.497	0.459	0.360
SE1703	Coffee	0.252	0.148	0.229
SE1705	Other noncarbonated drinks	0.156	0.217	0.135
SE18	**Other prepared foods**	**1.061**	**1.304**	**1.038**
SE1801	Canned and packaged soup	0.084	0.108	0.095
SE1802	Frozen prepared food	0.188	0.237	0.169
SE1803	Snacks	0.220	0.270	0.203
SE1804	Seasonings, condiments, sauces, and spices	0.277	0.290	0.279
SE1806	Miscellaneous prepared food, including baby food	0.292	0.399	0.292
SE19	**Food away from home**	**6.151**	**5.281**	**5.874**
SE1901	Lunch	2.175	1.758	2.078
SE1902	Dinner	2.646	2.548	2.490
SE1903	Other meals and snacks	1.029	0.791	0.999
SE1909	Unpriced	0.301	0.184	0.307
SE20	**Alcoholic beverages**	**1.564**	**0.933**	**1.571**
SE2001	Beer and ale	0.473	0.336	0.424
SE2002	Distilled spirits	0.229	0.111	0.208
SE2003	Wine	0.217	0.164	0.188
SE2005	Alcoholic beverages away from home	0.645	0.322	0.751
SE21	**Pure rent-renter occupied**	**7.269**	**8.384**	**7.961**
SE2101	Rent, residential	5.519	6.558	5.731
SE2102	Lodging while out of town	1.577	1.609	2.001
SE2103	Lodging while at school	0.173	0.217	0.229
SE22	**Rental equivalence and household insurance**	**18.234**	**19.962**	**19.999**
SE2201	Owners equivalent rent	17.841	19.515	19.616
SE2202	Household insurance	0.393	0.447	0.383
SE23	**Maintenance and repair services**	**0.129**	**0.111**	**0.123**
SE2301	Maintenance and repair services	0.129	0.111	0.123
SE24	**Maintenance and repair commodities**	**0.096**	**0.089**	**0.077**
SE2401	Materials, supplies, and equipment	0.042	0.027	0.035
SE2404	Other maintenance and repair commodities	0.054	0.062	0.042
SE25	**Fuel oil and other fuels**	**0.564**	**0.260**	**0.424**
SE2501	Fuel oil	0.409	0.182	0.293
SE2502	Other household fuel commodities	0.155	0.078	0.131
SE26	**Gas (piped) and electricity**	**4.614**	**3.925**	**3.453**
SE2601	Electricity	2.919	2.868	2.334
SE2602	Utility Natural Gas Service	1.695	1.057	1.119
SE27	**Other utilities and public services**	**3.308**	**3.986**	**3.225**
SE2701	Local charges	1.089	1.146	1.123
SE2702	Water and sewerage maintenance	0.600	0.654	0.778
SE2703	Cable television	0.410	0.770	0.554
SE2704	Refuse collection	0.145	0.247	0.220
SE2705	Interstate toll calls	0.663	0.729	0.325
SE2706	Intrastate toll calls	0.401	0.440	0.225
SE28	**Textile housefurnishings**	**0.439**	**0.387**	**0.329**
SE2801	Textile furnishings	0.439	0.387	0.329

	MARKET BASKET			
SE29	**Furniture and bedding**	**1.353**	**1.168**	**1.117**
SE2901	Bedroom furniture	0.425	0.337	0.364
SE2902	Sofas	0.266	0.276	0.232
SE2903	Living room chairs and tables	0.220	0.186	0.187
SE2904	Other furniture	0.442	0.369	0.334
SE30	**Household appliances**	**0.453**	**0.301**	**0.285**
SE3001	Refrigerators and home freezers	0.130	0.103	0.069
SE3002	Laundry equipment	0.134	0.098	0.093
SE3003	Stoves, ovens, dishwashers, and air conditioners	0.189	0.100	0.103
SE31	**Television and sound equipment**	**0.958**	**0.861**	**0.407**
SE3101	Televisions	0.352	0.267	0.137
SE3102	Video products other than televisions	0.248	0.252	0.071
SE3103	Audio products	0.358	0.342	0.199
SE3109	Unpriced	0.000	-	0.000
SE32	**Other household equipment and furnishings**	**1.549**	**1.305**	**1.122**
SE3201	Floor and window coverings, infants, laundry, cl	0.196	0.175	0.175
SE3202	Clocks, lamps, and decor items	0.302	0.254	0.215
SE3203	Tableware, serving pieces, and nonelectric kitchen	0.261	0.174	0.192
SE3204	Lawn equipment, power tools,	0.265	0.261	0.178
SE3205	Sewing, floor cleaning, small kitchen, and portabl	0.226	0.148	0.116
SE3206	Indoor plants and fresh cut flowers	0.193	0.171	0.166
SE3209	Unpriced	0.106	0.122	0.080
SE33	**Housekeeping supplies**	**1.262**	**1.233**	**1.093**
SE3301	Laundry and cleaning products	0.434	0.366	0.382
SE3303	Household paper products and stationery supplies	0.409	0.406	0.368
SE3305	Other household, lawn, and garden supplies	0.419	0.461	0.343
SE34	**Housekeeping services**	**1.584**	**1.492**	**1.481**
SE3401	Postage	0.260	0.207	0.258
SE3402	Babysitting	0.304	0.223	0.263
SE3403	Domestic service	0.285	0.301	0.231
SE3404	Gardening and other household services	0.379	0.424	0.380
SE3406	Appliance and furniture repair	0.178	0.082	0.182
SE3407	Care of invalids/elderly/convalescents	0.056	0.104	0.052
SE3409	Unpriced	0.122	0.151	0.115
SE35	**Tenant's insurance**	**0.036**	**0.031**	**0.033**
SE3501	Tenant's insurance	0.036	0.031	0.033
SE36	**Men's apparel**	**1.297**	**1.134**	**1.053**
SE3601	Suits, sport coats, coats, and jackets	0.378	0.275	0.312
SE3603	Furnishings and special clothing	0.314	0.328	0.243
SE3604	Shirts	0.314	0.275	0.268
SE3605	Dungarees, jeans, and trousers	0.273	0.241	0.216
SE3609	Unpriced	0.018	0.015	0.014
SE37	**Boys' apparel**	**0.317**	**0.302**	**0.227**
SE3701	Boys' apparel	0.314	0.301	0.225
SE3709	Unpriced	0.003	0.001	0.002
SE38	**Women's apparel**	**2.270**	**1.931**	**1.786**
SE3801	Coats and jackets	0.239	0.161	0.183
SE3802	Dresses	0.373	0.305	0.264
SE3803	Separates and sportswear	1.086	0.970	0.838
SE3804	Underwear, nightwear, hosiery,and accessories	0.393	0.345	0.321
SE3805	Suits	0.145	0.127	0.154
SE3809	Unpriced	0.034	0.023	0.026
SE39	**Girls' apparel**	**0.380**	**0.338**	**0.315**
SE3901	Girl's apparel	0.372	0.328	0.308
SE3909	Unpriced	0.008	0.010	0.007

SE40	**Footwear**	**0.916**	**0.935**	**0.716**
SE4001	Mens	0.275	0.307	0.227
SE4002	Boys and girls	0.187	0.212	0.153
SE4003	Womens	0.454	0.416	0.336
SE41	**Infants' and toddlers' apparel**	**0.232**	**0.264**	**0.187**
SE4101	Infants' & toddlers' apparel	0.210	0.245	0.169
SE4109	Unpriced	0.022	0.019	0.018
SE42	**Sewing materials and luggage**	**0.107**	**0.060**	**0.088**
SE4201	Sewing materials and luggage	0.107	0.060	0.088
SE43	**Jewelry**	**0.462**	**0.509**	**0.412**
SE4301	Watches	0.100	0.078	0.080
SE4302	Jewelry	0.362	0.431	0.332
SE44	**Apparel services**	**0.536**	**0.481**	**0.545**
SE4401	Other apparel services	0.256	0.207	0.255
SE4402	Laundry and dry cleaning other than coin operated	0.280	0.274	0.290
SE45	**New vehicles**	**5.517**	**5.242**	**4.955**
SE4501	New cars	4.484	3.060	3.952
SE4502	New trucks	0.953	2.123	0.910
SE4503	New motorcycles	0.080	0.056	0.093
SE46	**Used vehicles**	**1.482**	**2.178**	**1.278**
SE4601	Used cars	1.272	1.578	1.165
SE4609	Unpriced	0.210	0.600	0.113
SE47	**Motor fuel, motor oil, coolant, and fluids**	**4.922**	**3.201**	**3.231**
SE4701	Motor fuel	4.847	3.143	3.171
SE4702	Motor oil, coolant, and other products	0.075	0.058	0.060
SE48	**Automobile parts and equipment**	**0.818**	**0.594**	**0.529**
SE4801	Tires	0.427	0.293	0.268
SE4802	Other parts and equipment	0.391	0.301	0.261
SE49	**Automobile maintenance and repair**	**1.525**	**1.520**	**1.533**
SE4901	Body work	0.156	0.114	0.163
SE4902	Automobile drive train, brake, and misc mech repair	0.427	0.466	0.450
SE4903	Maintenance and servicing	0.524	0.504	0.486
SE4904	Power plant repair	0.396	0.416	0.411
SE4909	Unpriced	0.022	0.020	0.023
SE50	**Automobile insurance**	**1.705**	**2.428**	**2.629**
SE5001	Automobile insurance	1.705	2.428	2.629
SE51	**Vehicle finance charges**	**0.923**	**0.774**	**0.599**
SE5101	Vehicle Finance Charges	0.760	0.496	0.492
SE5109	Unpriced	0.163	0.278	0.107
SE52	**Vehicle rental, registration, and inspection**	**0.656**	**1.415**	**0.745**
SE5201	Automobile registration, licensing, and inspecti	0.309	0.344	0.366
SE5205	Other automobile-related fees	0.324	1.048	0.353
SE5209	Unpriced	0.023	0.023	0.026
SE53	**Public transportation**	**1.328**	**1.331**	**1.641**
SE5301	Airline fares	0.862	0.843	1.108
SE5302	Other intercity transportation	0.139	0.192	0.141
SE5303	Intracity public transportation	0.317	0.292	0.380
SE5309	Unpriced	0.010	0.004	0.012
SE54	**Prescription drugs and medical supplies**	**0.577**	**0.679**	**0.890**
SE5401	Prescription drugs and medical supplies	0.577	0.679	0.890
SE55	**Nonprescription drugs and medical supplies**	**0.363**	**0.403**	**0.383**
SE5502	Internal and respiratory over-the-counter drugs	0.232	0.280	0.246
SE5503	Nonprescription medical equipment and supplies	0.131	0.123	0.137
SE5509	Unpriced	0.000		0.000

[illegible]	MARKET BASKET	[illegible]	[illegible]	[illegible]
SE56	**Professional services**	**2.609**	**2.519**	**3.472**
SE5601	Physicians services	1.365	1.467	1.885
SE5602	Dental services	0.785	0.777	1.083
SE5603	Eye care	0.329	0.340	0.334
SE5604	Services by other medical professionals	0.150	0.235	0.170
SE57	**Hospital and other medical care services**	**1.328**	**1.834**	**2.276**
SE5701	Hospital rooms	0.532	0.587	0.886
SE5702	Other inpatient services	0.491	0.829	0.870
SE5703	Outpatient services	0.301	0.407	0.514
SE5709	Unpriced	0.004	0.011	0.006
SE58	**Health insurance**	**0.154**	**0.250**	**0.325**
SE581	Commercial	0.103	0.124	0.084
SE582	Blue Cross-Blue Shield	0.018	0.018	0.100
SE583	HMO	0.007	0.041	0.006
SE584	Other health insurance	0.026	0.067	0.135
SE59	**Reading materials**	**0.665**	**0.580**	**0.734**
SE5901	Newspapers	0.320	0.252	0.380
SE5902	Magazines, periodicals, and books	0.345	0.328	0.354
SE5909	Unpriced	0.000	0.000	0.000
SE60	**Sporting goods and equipment**	**0.624**	**0.609**	**0.399**
SE6001	Sport vehicles, including bicycles	0.336	0.306	0.185
SE6002	Other sporting goods	0.288	0.303	0.214
SE61	**Toys, hobbies, and other entertainment commodities**	**1.008**	**1.017**	**0.824**
SE6101	Toys, hobbies, and music equipment	0.487	0.484	0.372
SE6102	Photographic supplies and equipment	0.135	0.086	0.112
SE6103	Pet supplies and expense	0.374	0.433	0.330
SE6109	Unpriced	0.012	0.014	0.010
SE62	**Entertainment services**	**2.163**	**2.268**	**2.394**
SE6201	Club memberships	0.356	0.352	0.353
SE6202	Fees for participant sports, excluding club membership	0.309	0.347	0.394
SE6203	Admissions	0.593	0.563	0.714
SE6204	Fees for lessons or instructions	0.209	0.204	0.247
SE6205	Other entertainment services	0.676	0.786	0.664
SE6209	Unpriced	0.020	0.015	0.022
SE63	**Tobacco products**	**1.116**	**0.871**	**1.601**
SE6301	Tobacco and smoking products	1.116	0.869	1.601
SE6309	Unpriced	0.000	0.002	0.000
SE64	**Toilet goods and personal care appliances**	**0.673**	**0.768**	**0.588**
SE6401	Other toilet goods and small personal care appliance	0.392	0.403	0.326
SE6403	Cosmetics, bath and nail preparations, manicure and	0.281	0.365	0.262
SE65	**Personal care services**	**0.560**	**0.497**	**0.556**
SE6501	Beauty parlor services for females	0.446	0.328	0.441
SE6502	Haircuts and other barber shop services for males	0.114	0.169	0.115
SE6509	Unpriced	0.000	0.000	0.000
SE66	**School books and supplies**	**0.188**	**0.196**	**0.264**
SE6601	School bks, supp-college	0.132	0.135	0.188
SE6602	Elem/HS books, supp	0.046	0.036	0.062
SE6609	Unpriced	0.010	0.025	0.014
SE67	**Day care, tuition, and other school fees**	**1.588**	**1.869**	**2.770**
SE6701	College tuition	0.896	0.983	1.638
SE6702	Elementary and high school tuition	0.275	0.281	0.492
SE6703	Day care and nursery school	0.258	0.493	0.377
SE6704	Tuition for tech/business/& other sch	0.093	0.045	0.150
SE6709	Unpriced	0.066	0.066	0.113

INDEX	MARKET BASKET	[illegible]	[illegible]	[illegible]
SE68	**Legal, financial, and funeral services**	**0.995**	**0.996**	**1.366**
SE6801	Legal service fees	0.363	0.339	0.480
SE6802	Personal financial services	0.259	0.262	0.390
SE6803	Funeral expenses	0.292	0.307	0.390
SE6809	Unpriced	0.081	0.088	0.106
SE69	**Information processing equipment**	**0.238**	**0.551**	**0.074**
SE6901	Information processing equipment	0.238	0.551	0.074

Source:

DEPARTMENT OF LABOR
Bureau of Labor Statistics

Enclosure 2

1987 and 1998 Item Classification Structures

Legend: **MAJOR GROUP** - INTERMEDIATE AGGREGATE - **Expenditure Class** - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
FOOD AND BEVERAGES	**FOOD AND BEVERAGES**
FOOD	FOOD
FOOD AT HOME	FOOD AT HOME
CEREALS AND BAKERY PRODUCTS	CEREALS AND BAKERY PRODUCTS
Cereals and cereal products	**Cereals and cereal products**
Flour and prepared flour mixes	Flour and prepared flour mixes
Cereal	Breakfast cereal
Rice, pasta, cornmeal	Rice, pasta, cornmeal
Bakery products	**Bakery products**
White bread	Bread
Other breads, rolls, biscuits, and muffins	Fresh biscuits, rolls, muffins
Cakes, cupcakes, and cookies	Cakes, cupcakes, and cookies
Other bakery products	Other bakery products
MEATS, POULTRY, FISH, AND EGGS	MEATS, POULTRY, FISH, AND EGGS
MEATS, POULTRY AND FISH	MEATS, POULTRY AND FISH
MEATS	MEATS
Beef and veal	**Beef and veal**
Ground beef	Uncooked ground beef
Chuck roast	Uncooked beef roasts
Round roast	Uncooked beef steaks
Other steak, roast, and other beef	Uncooked other beef and veal
Round steak	
Sirloin steak	
Pork	**Pork**
Bacon	Bacon, breakfast sausage, and related products
Pork chops	Ham
Ham	Pork chops
Other pork, including sausage	Other pork including roasts and picnics
Other meats	**Other meats**
Other meats	Other meats
Poultry	**Poultry**
Fresh whole chicken	Chicken
Fresh or frozen chicken parts	Other poultry including turkey
Other poultry	
Fish and seafood	**Fish and seafood**
Canned fish and seafood	Fresh fish and seafood
Fresh or frozen fish and seafood	Processed fish and seafood

1987 and 1998 Item Classification Structures

Legend: MAJOR GROUP - INTERMEDIATE AGGREGATE - **Expenditure Class** - Item Strata

1987 Item Classification Structure	**1998 Item Classification Structure**
Eggs	**Eggs**
Eggs	Eggs
DAIRY PRODUCTS	
Fresh milk and cream	**Dairy and related products**
Fresh whole milk	Milk
Other fresh milk and cream	Cheese and related products
	Ice cream and related products
	Other dairy and related products
Processed dairy products	
Butter and other dairy products	
Cheese	
Ice cream and related products	
FRUITS AND VEGETABLES	FRUITS AND VEGETABLES
	FRESH FRUITS AND VEGETABLES
Fresh fruits	**Fresh fruits**
Apples	Apples
Bananas	Bananas
Oranges	Citrus fruits
Other fresh fruits	Other fresh fruits
Fresh vegetables	**Fresh vegetables**
Potatoes	Potatoes
Lettuce	Lettuce
Tomatoes	Tomatoes
Other fresh vegetables	Other fresh vegetables
Processed fruits	**Processed fruits and vegetables**
Fruit juices and frozen fruits	Canned fruits and vegetables
Canned and dried fruits	Frozen fruits and vegetables
	Other processed fruits and vegetables including dried
Processed vegetables	
Frozen vegetables	
Canned and other processed vegetables	
	NONALCOHOLIC BEVERAGES AND BEVERAGE MATERIALS
	Juices and nonalcoholic drinks
	Carbonated drinks
	Frozen noncarbonated juices and drinks
	Nonfrozen noncarbonated juices and drinks
	Beverage materials including coffee and tea
	Coffee
	Other beverage materials including tea
OTHER FOOD AT HOME	OTHER FOOD AT HOME
Sugar and sweets	**Sugar and sweets**

1987 and 1998 Item Classification Structures

Legend **MAJOR GROUP** - **INTERMEDIATE AGGREGATE** - **Expenditure Class** - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
Candy and other sweets	Sugar and artificial sweeteners
Sugar and artificial sweeteners	Candy and chewing gum
	Other sweets

1987 and 1998 Item Classification Structures

Legend: MAJOR GROUP - INTERMEDIATE AGGREGATE - **Expenditure Class** - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
Fats and oils	**Fats and oils**
Fats and oils	Butter and margarine
	Salad dressing
	Other fats and oils including peanut butter
Other prepared foods	**Other foods**
Canned and packaged soup	Soups
Frozen prepared foods	Frozen and freeze dried prepared foods
Snacks	Snacks
Spices, seasonings, condiments, sauces	Spices, seasonings, condiments, sauces
Other prepared food	Baby food
	Other miscellaneous foods
Nonalcoholic beverages	
Carbonated drinks	
Coffee	
Other noncarbonated drinks	
Food away from home	**Food away from home**
Lunch	Full service meals and snacks
Dinner	Limited service meals and snacks
Other meals and snacks	Food at employee sites and schools
Unsampled board and catered affairs	Food from vending machines and mobile vendors
	Other food away from home
	ALCOHOLIC BEVERAGES
Alcoholic beverages	**Alcoholic beverages at home**
Beer, ale, and alcoholic malt	Beer, ale, and other malt beverages at home
Distilled spirits at home	Distilled spirits at home
Wine at home	Wine at home
Alcoholic beverages away from home	
	Alcoholic beverages away from home
	Alcoholic beverages away from home
HOUSING	HOUSING
SHELTER	SHELTER
Pure rent-renter occupied	**Rent of primary residence**
Rent of dwelling	Rent of primary residence
Lodging while out of town	
Lodging while at school	**Lodging away from home**
	Housing at school, excluding board
	Other lodging away from home including hotels and motels
Rental equivalence and household insurance	**Owners' equivalent rent of primary residence**
Owners' equivalent rent	Owners' equivalent rent of primary residence
Unsampled household insurance	
Tenants' insurance	**Tenants' and household insurance**
Tenants' insurance	Tenants' and household insurance
Maintenance and repair services	
Property maintenance and repair services	

1987 and 1998 Item Classification Structures

Legend: MAJOR GROUP - INTERMEDIATE AGGREGATE - Expenditure Class - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure

1987 and 1998 Item Classification Structures

Legend: MAJOR GROUP - INTERMEDIATE AGGREGATE - **Expenditure Class** - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
Maintenance and repair commodities	
Materials, supplies, equipment for home repairs	
Other property maintenance commodities	
FUELS AND UTILITIES	FUELS AND UTILITIES
FUELS	FUELS
Fuel oil and other fuels	**Fuel oil and other fuels**
Fuel oil	Fuel oil
Other fuels	Other household fuels
Gas (piped) and electricity	**Gas (piped) and electricity**
Electricity	Electricity
Utility natural gas service	Utility natural gas service
Other utilities and public services	**Water and sewer and trash collection services**
Telephone services, local charges	Water and sewerage maintenance
Water and sewerage maintenance	Garbage and trash collection
Community antenna and cable television	
Garbage and trash collection	
Interstate telephone services	
Intrastate telephone services	
HOUSEHOLD FURNISHINGS AND OPERATIONS	HOUSEHOLD FURNISHINGS AND OPERATIONS
Textile house furnishings	**Window and floor coverings and other linens**
Linens, curtains, drapes, sewing materials	Floor coverings
	Window coverings
	Other linens
Furniture and bedding	**Furniture and bedding**
Bedroom furniture	Bedroom furniture
Sofas	Living room, kitchen, and dining room furniture
Living room chairs and tables	Other furniture
Other furniture	Unsampled furniture
Household appliances	**Appliances**
Refrigerators and home freezers	Major appliances
Laundry equipment	Other appliances
Stoves, ovens, portable dishwashers, window air conditioners	Unsampled appliances
Other household equipment and furnishings	**Other household equipment and furnishings**
Floor/window coverings, outdoor/infant/laundry equipment	Clocks, lamps, and decorator items
Clocks, lamps, and decorator items	Indoor plants and flowers
Tableware, serving pieces, nonelectric kitchenware	Dishes and flatware
Lawn and garden equipment, tools, hardware	Nonelectric cookware and tableware
Small kitchen appliances, sewing machines, portable heating/cooling equip	
Indoor plants and fresh cut flowers	**Tools, hardware, outdoor equipment and supplies**
Unsampled household equipment parts, small furnishings	Tools, hardware and supplies
	Outdoor equipment and supplies
	Unsampled tools, hardware, outdoor equipment and supplies
Housekeeping supplies	**Housekeeping supplies**
Laundry and cleaning products	Household cleaning products

1987 and 1998 Item Classification Structures

Legend: **MAJOR GROUP** - INTERMEDIATE AGGREGATE - **Expenditure Class** - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
Household paper products, including stationery	Household paper products
Other household products, lawn and garden supplies	Miscellaneous household products
Housekeeping services	**Household operations**
Postage	Housekeeping services
Unsampled baby-sitting	Gardening and lawn care services
Domestic service	Moving, storage, freight expense
Other household services	Repair of household items
Appliance and furniture repair	Unsampled household operations
Care of invalids, elderly, and convalescents in the home	
Unsampled rent/repair of household equipment, sound equipment	
Television and sound equipment	
Television sets	
Video cassette recorders, disc players, and tapes	
Audio components, radios, recordings, and other	
Unsampled accessories for electronic equipment	
Information processing equipment	
Information processing equipment	
APPAREL AND UPKEEP	**APPAREL**
APPAREL COMMODITIES	
MEN'S AND BOYS' APPAREL	MEN'S AND BOYS' APPAREL
Men's apparel	**Men's apparel**
Men's suits, coats, sportcoats, jackets	Men's suits, sport coats, and outerwear
Men's furnishings	Men's furnishings
Men's shirts	Men's shirts and sweaters
Men's pants and shorts	Men's pants and shorts
Unsampled uniforms and other clothing	Unsampled men's apparel
Boys' apparel	**Boy's apparel**
Boys' apparel	Boy's apparel
Unsampled boys' uniforms and other clothing	Unsampled boy's apparel
WOMEN'S AND GIRLS' APPAREL	WOMEN'S AND GIRLS' APPAREL
Women's apparel	**Women's apparel**
Women's coats and jackets	Women's outerwear
Women's dresses	Women's dresses
Women's separates, sportswear	Women's suits and separates
Women's underwear, nightwear, accessories	Women's underwear, nightwear, sportswear and accessories
Women's suits	Unsampled women's apparel
Unsampled uniforms and other clothing	
Girls' apparel	**Girls' apparel**
Girls' apparel	Girls' apparel
Unsampled uniforms and other clothing	Unsampled girls' apparel
Footwear	**Footwear**

1987 and 1998 Item Classification Structures

Legend: **MAJOR GROUP** - INTERMEDIATE AGGREGATE - Expenditure Class - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
Men's footwear	Men's footwear
Boys' and girls' footwear	Boys' and girls' footwear
Women's footwear	Women's footwear

1987 and 1998 Item Classification Structures

Legend: **MAJOR GROUP** - INTERMEDIATE AGGREGATE - **Expenditure Class** - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
Infants' and toddlers' apparel	**Infants' and toddlers' apparel**
Infants' and toddlers' apparel	Infants' and toddlers' apparel
Unsampled accessories and other clothing	
Sewing materials and luggage	
Sewing materials, notions, luggage	
Jewelry	**Jewelry and watches**
Watches	Watches
Jewelry	Jewelry
APPAREL SERVICES	
Apparel services	
Other apparel services	
Apparel laundry and dry-cleaning, excluding coin operated	
TRANSPORTATION	**TRANSPORTATION**
PRIVATE TRANSPORTATION	PRIVATE TRANSPORTATION
New vehicles	**New and used motor vehicles**
New cars	New vehicles
New trucks	Used cars and trucks
New motorcycles	Leased cars and trucks
	Car and truck rental
	Unsampled new and used motor vehicles
Used vehicles	
Used cars	
Unsampled other used vehicles	
Motor fuel, motor oil, coolant, and fluids	**Motor fuel**
Motor fuel	Gasoline (all-types)
Motor oil, coolant, and other fluids	Other motor fuels
Automobile parts and equipment	**Motor vehicle parts and equipment**
Tires	Tires
Vehicle parts and equipment other than tires	Vehicle accessories other than tires
Automobile maintenance and repair	**Motor vehicle maintenance and repair**
Automotive body work	Motor vehicle body work
Automotive drive-train, front-end repair	Motor vehicle maintenance and servicing
Automotive maintenance and servicing	Motor vehicle repair
Automotive power plant repair	Unsampled service policies
Unsampled automotive repair service policy	
Automobile insurance	**Motor vehicle insurance**
Automobile insurance	Motor vehicle insurance
Vehicle finance charges	
Automobile finance charges	
Unsampled other vehicle finance charges	
Vehicle rental, registration, and inspection	**Motor vehicle fees**
State and local automobile registration, license, inspection	State and local registration and license

1987 and 1998 Item Classification Structures

Legend **MAJOR GROUP** - INTERMEDIATE AGGREGATE - **Expenditure Class** - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
Other automobile-related fees	Motor vehicle property tax
Unsampled docking and landing fees	Parking and tolls
	Unsampled motor vehicle fees
Public transportation	**Public transportation**
Airline fare	Airline fare
Other intercity transportation	Other intercity transportation
Intracity transportation	Intracity transportation
Unsampled school bus	Unsampled public transportation
MEDICAL CARE	**MEDICAL CARE**
MEDICAL CARE COMMODITIES	MEDICAL CARE COMMODITIES
Prescription drugs and medical supplies	**Prescription drugs and medical supplies**
Prescription drugs and medical supplies	Prescription drugs and medical supplies
	Unsampled rent or repair of medical equipment
Nonprescription drugs and medical supplies	**Nonprescription drugs and medical supplies**
Nonprescription drugs and medical supplies	Internal and respiratory over-the-counter drugs
Nonprescription medical equipment and supplies	Nonprescription medical equipment and supplies
MEDICAL CARE SERVICES	MEDICAL CARE SERVICES
Professional services	**Professional services**
Physicians' services	Physicians' services
Dental services	Dental services
Eyeglasses and eye care	Eyeglasses and eye care
Services by other medical professionals	Services by other medical professionals
Hospital and other medical care services	**Hospital and related services**
Hospital room, in patient	Hospital services
Other in-patient services	Nursing homes and adult daycare
Hospital out-patient services	
Unsampled rent or repair of medical equipment	
Health insurance	**Health insurance**
Commercial health insurance	Commercial health insurance
Blue cross/Blue Shield	Blue Cross/Blue Shield
Health Maintenance Organizations	Health Maintenance Plans
Other health insurance	Medicare and other health insurance
ENTERTAINMENT	**RECREATION**
	Video and audio
	Televisions
	Cable television
	Other video equipment
	Video cassettes, discs, and other media including rental
	Audio equipment
	Audio discs, tapes and other media
	Unsampled video and audio
	Pets, pet products and services

1987 and 1998 Item Classification Structures

Legend **MAJOR GROUP** - **INTERMEDIATE AGGREGATE** - **Expenditure Class** - Item Strata

1987 Item Classification Structure	**1998 Item Classification Structure**
	Pets and pet products
	Pet services including veterinary

1987 and 1998 Item Classification Structures

Legend MAJOR GROUP - INTERMEDIATE AGGREGATE - **Expenditure Class** - Item Strata

1987 Item Classification Structure	**1998 Item Classification Structure**
Sporting goods and equipment	**Sporting goods**
Sports vehicles, including bicycles	Sports vehicles including bicycles
Sports equipment	Sports equipment
	Unsampled sporting goods
Toys, hobbies, and other entertainment commodities	**Photography**
Toys, hobbies, and other entertainment commodities	Photographic equipment and supplies
Photographic supplies and equipment	Photographers and film processing
Pets and pet products	Unsampled photography
Unsampled souvenirs, fireworks, optic goods	
	Other recreational goods
	Toys
	Sewing machines, fabric and supplies
	Music instruments and accessories
	Unsampled recreation goods
Entertainment services	**Recreation services**
Club membership dues and fees	Club membership dues and fees for participant sports
Fees for participant sports	Admissions
Admissions	Fees for lessons or instructions
Fees for lessons or instructions	Unsampled recreation services
Photographers, film processing, pet services	
Unsampled rental of recreational vehicles	
Reading materials	**Recreational reading materials**
Newspapers	Newspapers and magazines
Magazines	Recreational books
Unsampled newsletters	Unsampled recreational reading materials
OTHER GOODS AND SERVICES	EDUCATION AND COMMUNICATION
	EDUCATION
School books and supplies	**Educational books and supplies**
School books and supplies for college	Educational books and supplies
Reference books and elementary and high school books	Unsampled educational books and supplies
Unsampled miscellaneous school purchases	
Daycare, tuition, and other school fees	**Tuition, other school fees, and child care**
College tuition and fees	College tuition and fees
Elementary and high school tuition and fees	Elementary and high school tuition and fees
Child daycare, nursery school	Child care and nursery school
Other tuition and fees	Technical and business school tuition and fees
Unsampled miscellaneous school items, rentals, and other services	Unsampled tuition, other school fees, and child care
	COMMUNICATION
	Postage and delivery services
	Postage and delivery services
	Delivery services

1987 and 1998 Item Classification Structures

Legend **MAJOR GROUP** - INTERMEDIATE AGGREGATE - **Expenditure Class** - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
	INFORMATION AND INFORMATION PROCESSING
	Telephone services
	Telephone services, local charges
	Telephone services, long distance charges
	Cellular Telephone services
	Information and information processing other than telephone services
	Personal computers and peripheral equipment
	Computer software and accessories
	Computer information processing services
	Other information processing equipment
	Unsampled information and information processing
	OTHER GOODS AND SERVICES
Tobacco products	**Tobacco and smoking products**
Tobacco and smoking supplies	Cigarettes
Unsampled smoking products and accessories	Tobacco products other than cigarettes
	Unsampled tobacco and smoking products
	PERSONAL CARE
Toilet goods and personal care appliances	**Personal care products**
Hair, dental, shaving, miscellaneous personal care products	Hair, dental, shaving, and miscellaneous personal care products
Cosmetics, bath/nail/make-up preparations and implements	Cosmetics/perfume/bath/nail preparations and implements
	Unsampled personal care products
Personal care services	**Personal care services**
Beauty parlor services for females	Haircuts and other personal care services
Haircuts and other barber shop services for males	
Unsampled repair of personal care appliances	
Legal, financial, and funeral services	**Miscellaneous personal services**
Legal fees	Legal services
Banking and accounting expenses	Funeral expenses
Cemetery lots and funeral expenses	Laundry and dry cleaning services
Unsampled miscellaneous personal services	Apparel services other than laundry and dry cleaning
	Financial services
	Care of invalids and elderly at home
	Unsampled items
	Miscellaneous personal goods
	Miscellaneous personal goods

Source:
DEPARTMENT OF LABOR
Bureau of Labor Statistics

Mr. SNOWBARGER. Thank you, Mr. Barrett.

Mr. Shays.

Mr. SHAYS. Thank you, Ms. Abraham. It's very nice to have you here. I was thinking, in some ways, you have an extraordinarily powerful position. I would just like to understand a few things about your office. And I just want to say, I have no hidden agenda in my questions. I do in some cases, but not as you coming before us.

Ms. ABRAHAM. Good. I'm glad to hear that.

Mr. SHAYS. I start with the premise that whatever a senior's cost of living, that's what it should be. It shouldn't be less, or it shouldn't be more. And then I would say to my colleague from Vermont that, if, in fact, we should be providing more, then that's something we should do legislatively, if we feel that it's not enough, that it has to be something more than the cost of living. And I would also agree with my colleague from Vermont, if the cost of living is not truly representing their true costs, then it should be adjusted.

I just want to first understand your office. And I don't mean this in disrespect, because I happen to like politics, but I make an assumption that the Commissioner's position is an appointed position.

Ms. ABRAHAM. It is.

Mr. SHAYS. But I also make the assumption that you basically have a fairly large staff that assists you in doing your tasks. And your task isn't just doing CPI; it's a lot of other things. I'd like you just to give me an idea of what some of the other responsibilities are.

Ms. ABRAHAM. Certainly. I should clarify, perhaps. I am appointed to my position for a fixed term, a 4-year term.

Mr. SHAYS. Which is how long?

Ms. ABRAHAM. A 4-year term.

Mr. SHAYS. And is it a reappointed position or is it one time?

Ms. ABRAHAM. The historical precedent has been that Commissioners of Labor Statistics are reappointed. The agency has been around for more than 110 years, and I'm the 11th Commissioner.

Mr. SHAYS. And regardless of party, in other words?

Ms. ABRAHAM. Right.

Mr. SANDERS. You like that tradition, right?

Ms. ABRAHAM. I think that's the appropriate tradition. Even aside from my personal interest, I think that's the appropriate tradition.

Mr. SHAYS. But the bottom line is, a Republican President might appoint a Democrat, a previous appointee, or vice-versa.

Ms. ABRAHAM. The prior Commissioner was Janet Norwood, who was appointed by President Carter and reappointed twice by President Reagan.

You asked about the other things that the Bureau does. We have responsibility for, in addition to price statistics, which includes the Consumer Price Index, the Producer Price Index, and export and import prices indexes. We are responsible for employment and unemployment statistics; the payroll employment numbers and the unemployment rate that will be coming out on Friday are produced by us.

We are responsible for information on wages and working conditions. That includes the Employment Cost Index we were discussing earlier. We produce the Government's official productivity statistics, and we also have a program that produces employment outlook projections.

Mr. SHAYS. I have always been curious, because in some cases, with the CPI, whatever statistic you come with costs potentially the taxpayers billions of dollars, or it reduces their costs, or when you come up with labor statistics, it has a significant impact on, say, the market, the stock market. It obviously has an impact on a lot of other decisions.

Statistics you do with, for instance, the Consumer Price Index, we have legislation that says "plus the CPI," or "the CPI minus," so I'm interested to know what ethical process or protocol you have to just protect the American people from abuse. In other words, would some people love to get what your employment statistic is a little ahead of the market?

Ms. ABRAHAM. I'm sure they would.

Mr. SHAYS. Well, what's the process?

Ms. ABRAHAM. There are many things that we do to ensure our independence.

Mr. SHAYS. The process to ensure the integrity that the statistics aren't known to the general public until—I mean, not to individuals until they are generally known to everyone.

Ms. ABRAHAM. Right. We have a process for all of our sensitive economic indicators, and there are a number. The only people who see the information before it's published are people who are working on it directly and have a need to know what the data are showing in connection with their work.

The data are not shared with anyone outside of the Bureau of Labor Statistics until our press release has been drawn up. We send the information over to the Council of Economic Advisers, to share with the President, late in the afternoon before the data are released.

At 8 o'clock on the morning of the release, press are allowed to come into a locked room to look at the data so that they can work up their stories, and the data are then released at 8:30 a.m.

Mr. SHAYS. How many people see the statistics or are aware of the statistics, say, before the White House is aware of it?

Ms. ABRAHAM. Only staff at the Bureau of Labor Statistics.

Mr. SHAYS. How many would that be?

Ms. ABRAHAM. I'd be taking a guess, and it would vary, depending on the particular thing we're talking about. Twenty, maybe. I don't know. If you really wanted to know, I could get numbers for you.

Mr. SHAYS. Well, I would like to know.

Ms. ABRAHAM. OK.

Mr. SHAYS. But that will be a followup question.

Ms. ABRAHAM. I may be off in my guess, and it may also vary by which statistics we're talking about.

Mr. SHAYS. Has there been any case that's either been public or not been made public where someone has these statistics and has provided them to someone else outside?

Ms. ABRAHAM. To my knowledge, there have been no incidents where anyone in the market has gotten any of these data ahead of time.

We did have one incident, which we took steps to address immediately, in which some of our Producer Price Index data were put up on the Internet overnight, and they were up there for a few hours in the night, and we then yanked them back. There were two people overseas, researchers as best we could tell, who ended up downloading PPI data during that period. We don't know whether they saw the prerelease data.

Other than that incident, I know of no premature releases, and I know of no cases in which people in the market received access to data before release.

Mr. SHAYS. Just say Bernard Sanders would not want me to have undue influence over you, or any influence over you, frankly, nor would I want him to, based on our perspective. What we require you to do is not really outlined significantly in statute. It's almost common law. It has just evolved over time; is that correct?

Ms. ABRAHAM. That is correct. I think it would be very hard to write down in statute what you want us to do, in that we learn new things on an ongoing basis about how to improve our measures.

Mr. SHAYS. So a lot of the power that you have is over time, it's tradition, it's practice.

Ms. ABRAHAM. Yes. That is right. I think that that's been a very effective way of ensuring.

Mr. SHAYS. No, no. I'm not asking you to pass judgment. I'm just trying to understand.

Ms. ABRAHAM. Right.

Mr. SHAYS. Because it gets into this whole issue of, ultimately, what can the White House do, or what can Congress do to influence it. Because I've heard statistics of 4.5 percent, as well.

There is a group of Members of Congress who say that it overinflates the cost and that the Bureau of Labor Statistics is not inclined to change it; therefore, you do need statutory oversight to change that, because they are not going to do it internally.

There is another group in Congress that says—and Senator Moynihan, frankly—I know this sometimes tends to be Republican and Democrat, but 2 years ago I was on an airplane with Mr. Moynihan, and he had solved the world's problems by solving this issue of the CPI. So it's not a Republican or Democrat thing. He really believes that it overstates, and he's a highly respected Member of the Senate.

The issue I'm getting to is that there's also another group in Congress that believes that you could and should be re-evaluating how you determine the cost of living, and you need to act more quickly. And they believe that that ranges from 0.2 to 0.5 of a percent.

What I want to do now is get to what Mr. Waxman was asking, and that was, isn't it true that if you move the—is this my first 5 or my second 5?

Mr. TOWNS. Third 5.

Mr. SHAYS. I've done 10. I can go around the next round.

Mr. SNOWBARGER. Why don't you go first in this round.

Mr. SHAYS. Yes, and then if we could go around, I'll take another 5.

Isn't it true that if you moved more quickly on what you are considering, there would be a potential reduction in the CPI of somewhere between 0.2 and 0.5 percent? Isn't there something in that range?

Ms. ABRAHAM. We have a number of things in the works that I described in my opening remarks. The only thing that we are considering to which I can attach even a range, in terms of its likely impact, beyond updating the market basket next January, is the possible adoption of the geometric mean formula in some components of the index.

We need some time to think about what it makes sense to do. We need to do an evaluation. I think speeding up the timetable for making those decisions would be extremely difficult. I don't know how we would do that. I think it's important, as well, that we proceed at a deliberate pace to make changes. Our past practice has always been to give people substantial advance notice of changes that we were making, and I think it would be a grave mistake to depart substantially from that.

Mr. SHAYS. I need to understand, because I do have sympathy with Mr. Snowbarger's comment. I'm not sure, in this day and age, that we can wait years and years and years. The marketplace changes very quickly and I don't know if Government can be so slow.

I will voice a concern. I feel you are an expert for instance, on the issue of breadbasket. I would think, unless I just have a totally distorted view of what the breadbasket is, that you would be able to almost say without notes exactly what constitutes the breadbasket—market basket, I'm sorry, when you were asked that question, just before I was given the floor.

I guess what I'm saying to you is, I need to be convinced that so much time is necessary. Tell me why. There's all this data. We don't have to reinvent the data; it's out there.

Ms. ABRAHAM. I'm not quite sure exactly what it is you think is taking too much time. Maybe I can give you a better answer if I'm clearer on that.

Mr. SHAYS. Well, you're talking about readjusting how you determine the CPI.

Ms. ABRAHAM. Using the geometric mean formula in the index.

Mr. SHAYS. Right. Now, is this something that you just started thinking about this year?

Ms. ABRAHAM. No, we've been thinking about this for a couple of years.

Mr. SHAYS. I want to pin you down a little bit.

Ms. ABRAHAM. In December 1993, we first published an article that was authored by Brent Moulton, who is here, that took a look at the use of the geometric formula as opposed to what we currently do now.

It turns out that our understanding of what that formula does and how we ought to think about it really has evolved over that time. So we are still working on understanding exactly what it does and thinking through under exactly what circumstances it might be more appropriate than the formula we're using now.

That was research. It wasn't a step directly toward making changes in the official index. We just published, in March of this year——

Mr. SHAYS. With all due respect, even publishing in 1993, December 1993.

Ms. ABRAHAM. It was a research paper.

Mr. SHAYS. Right. So you were thinking about it before December 1993.

Ms. ABRAHAM. We could ask Brent when he started working on the paper. We could ask Brent, who is here, when he started working on the paper. It wasn't a great long time, is my sense.

Mr. SHAYS. It almost sounds like a facetious answer. I think you get the sense that 1993, or let's say the beginning of 1994, and we're now into 1997. I just don't think we have the luxury to wait that long.

What I'm going to do is, I'm going to come back. I'm going to let other Members ask questions.

Ms. ABRAHAM. Could I respond?

Mr. SHAYS. Sure.

Ms. ABRAHAM. If we were just talking about knowing what needed to be done and doing it, I would agree, we would want to move fast.

We realized, after publication of Brent's paper, as we started thinking more about his findings, we began to figure out that there was this "formula bias" problem that was related to the findings he was getting.

His paper was published in December 1993. In January 1995, just over a year later, we took steps to substantially correct that problem. We then figured out that we hadn't got the whole job done, and last summer we made the remaining changes that were necessary to fix that problem.

So when it was a matter of realizing that there was a problem, figuring out that we could do something to fix the problem and doing it, we have moved very quickly. I don't think that these other things that we've been talking about are in the category. I don't think we really have thought through where this geometric mean formula makes sense and where it doesn't. And it's far from a trivial matter to really work that through.

Research and development, in the private sector, often can take a very long time, and what we're talking about here is much more akin to that than just accelerating production cycles.

Mr. SHAYS. Let me take the second round—I mean, wait till my colleagues have asked some more questions. I guess the term "fast," I just don't want us to act slowly. I just feel we need to be a little more timely. Maybe some of it requires us to give you some more resources. I just think the implications of this—and I know you know this—are just extraordinary.

Just as Mr. Sanders can tell you about what it's like for seniors, I'd like to tell you what I think it's like for kids, and what I think it's going to be like for kids when they have to pay the bills, if, in fact, we are overstating the inflation rate.

I have some other questions, but let me just come back after other Members have had some time to ask some more questions.

Mr. SNOWBARGER. Mr. Towns.

Mr. TOWNS. I will pass.

Mr. SNOWBARGER. Mr. Sanders.

Mr. SANDERS. Let me just make a few points and maybe comment on what Chris Shays said.

No. 1, it seems to me what I've learned today, mostly, Ms. Abraham, it is terribly important that you remain independent and not be swayed by political pressure. I think Mr. Shays suggested that I am concerned about senior citizens. I am, but that's not your job. Your job is just to come up with the information. It is, in fact, our job to make the legislation to deal with it as we want. And I agree with Mr. Shays on that.

But the caveat of that, the other side of that is that because politicians want to balance the budget in a certain way, they may be leaning on you to say that the CPI is lower than it is, and therefore we can cut benefits.

I would hope very much that you and your colleagues would have the professional integrity to say you're not politicians, you don't make legislation, but you are going to come up with the best, statistically honest information that you can, and resist any effort to force you to go one way or the other. Because we can't run a government unless we get honest information. I'm sure Mr. Shays would agree with that.

We have to, then, take your information and do with it as, you know, we will argue about. But we need independence from you, and I would hope that whether its right-wing Republicans or—well, there aren't any left-wing Democrats—but whoever it might be, to resist that and just maintain your intellectual integrity on that.

Do you agree with that?

Ms. ABRAHAM. Absolutely. And I am very happy to be able to say that the Bureau of Labor Statistics has a long, long tradition of proceeding independently, based on the best technical judgment of the staff.

Mr. SANDERS. That's right. OK. And I think we can all recognize what a terribly difficult job it is. I'm trying to sit here and think that I have a 25-year-old, affluent young man, say, from Los Angeles, and he has spending habits; right? And you have an 80-year-old, low-income person in Newport, VT, who has spending habits.

They are living in different worlds. And how you balance that, that is what your job is about. It's a tough one, because they are living in very different worlds, in terms of what they purchase and what their needs are. I would again reiterate, my hope that, to deal with that problem, you would put more focus on the needs of senior citizens, in particular, especially as it relates to Social Security.

I am not an economist, and I don't know all that much about substitution theory, so maybe help me out here. If we have, theoretically, somebody who loves to eat steak and hates chicken, OK; the cost of steak goes off the wall, the price of chicken goes down. So this guy says, "Boy, I hate to eat chicken, but that's what I'm going to eat, 5 days a week." OK.

Now, the cost that this person is now spending for dinner let's say has even gone down, spending less money. But he is being deprived, she is being deprived of what he or she enjoys; right? The quality of life, if you would like. I'm being a little bit jocular here.

How do you measure that? You can come up with a statistic that says Mr. Jones is now spending less for food; however, Mr. Jones is not getting what he really wants. His quality of life, in a sense, has gone down. As an economist, how do you deal with that?

Ms. ABRAHAM. We deal with that only in an indirect way, I guess. The way that we come up with measures of substitution bias in the Consumer Price Index is by looking at what's happening to the relative prices of different kinds of items, different categories of items, and then looking at what happens to the relative share of aggregate expenditures devoted to each of those different categories of items.

And we, in effect, draw an inference from what's happening to the pattern of consumption expenditures about the substitutions that people have made.

Mr. SANDERS. I think I understand it, but I think there's another point. And it's tough stuff, so I'm not being critical here.

Ms. ABRAHAM. I should say there is a theory that underlies precisely how we do this, but that's the intuition. When relative prices change, we look at how people's actual behavior changes.

Mr. SANDERS. But help me out here. If you were just to look at the price of steak, which went up, and people were not purchasing it, then people would correctly say you're overestimating what people are spending. Right? The price of steak went up, but they are not buying steak. Wouldn't that be fair? Am I wrong on that?

If that's what you did, if you did not look at what people were purchasing, you just looked at the price of the product, and no one was buying it, your statistic would be irrelevant.

Ms. ABRAHAM. Right.

Mr. SANDERS. OK. So, you know, if the price of steak doubled but nobody was buying it, we have to take into consideration nobody is buying it. OK. But on the other hand, the fact that somebody is now buying chicken, which has gone down and people gravitate toward that, how do you measure it? And maybe you don't, because you're an economist.

But in terms of quality of life, I can buy substitute products, but my quality of life, in a sense, has gone down. I would like to get steak. So you could argue, gee, the cost of food has gone down, but how do you take into consideration that people are not purchasing what they would like to purchase? How does that equate?

Ms. ABRAHAM. The only information that we really have to work with is what people reveal about their preferences, based on what they actually buy.

I would like to make a distinction here with respect to this substitution bias thing. If all that happens is the price of steak goes up, then, clearly, people are worse off; the cost of living has gone up. This doesn't change that. All we're really saying with this theory, this method of measuring, is that if the price of steak goes up, the cost of living doesn't go up as much as it would if you assume they kept buying exactly what they were buying to begin with. There are some substitutions that they can make to partially offset the increase in the price of steak.

Mr. SANDERS. I agree. I agree with you, absolutely. But what I'm asking is, and maybe, as an economist, you can't do this, how do you throw into the equation the fact that somebody is—their quality of life, in a sense, has gone down? I mean, steak and chicken is a poor example of that. You can get a cheaper product, a substitute product, but maybe it's not the product that you wanted. Has your standard of living gone down, even if it can't be measured in monetary terms?

Ms. ABRAHAM. We don't try to talk to people about that directly.

Mr. SANDERS. OK. I think that might be a little bit of a weakness in the substitution theory. Would you agree?

Ms. ABRAHAM. Well, this theory is based on a certain set of assumptions about people's preferences, and what they look like, and how they respond when relative prices change. I would note, though, that the CPI itself is also based on much the same sort of assumptions. In constructing this kind of measure, you really can't get away from making some stylized assumptions, I think, and it's going inevitably to leave out how individual people feel about some of this, and so on.

Mr. TOWNS. Would the gentleman yield?

Mr. SANDERS. Yes.

Mr. TOWNS. On that point, as he is raising these questions, it sort of opens up another area which points out, in terms of my concern, that now we're getting, in some areas of the country, these big outlets where people can go and purchase. And sometimes, of course, the price comes down. But senior citizens that might not be able to drive can't get to those outlets, you know. These are factors that I think that one would need to consider. Do you look at all of these things, as well?

Ms. ABRAHAM. No. I'm not sure all of what you have in mind, but I'm sure we don't.

Mr. TOWNS. Well, what I have in mind is this, I come from New York, and they have now these big outlet stores. In many instances, the prices actually go down, because you're talking about bulk buying, in terms of purchasing. But at the same time, it does not help seniors, in many instances, that can't get to these outlets. So, therefore, they will not go out and make these purchases and will not be able to substitute.

Ms. ABRAHAM. Let me try to respond on that point, specifically. We do have discount outlets represented in the CPI, with some lag, in proportion to the share of expenditures that occurs at such outlets. An issue that has been raised is the fact that we don't attempt to compare the prices in older, traditional stores directly to the prices in the outlet stores. It has been suggested that we should.

There are a variety of reasons why that might not be appropriate. You are suggesting a reason why, if we were to do that, which we don't, we might get an answer that wouldn't be accurate for senior citizens.

Mr. TOWNS. Let me give him his time back. The point I'm really making is, isn't it true that the poor pay more?

Ms. ABRAHAM. I don't know.

Mr. SANDERS. Let me pick up, because that's just what I was going to say. The truth is, it's very expensive to be poor, very expensive. No question about it.

No, I think you're absolutely right. When you are rich, you have a good bank to bank in; when you are poor, you go cashing your check, what do you pay when you cash your check, in your neighborhoods there?

Mr. TOWNS. There you go.

Mr. SANDERS. They rip you off right and left, OK.

Mr. TOWNS. Four dollars right away, right up front, $5.

Mr. SANDERS. What happens if you don't have an automobile and you can't go? The same situation exists in my State. There are new outlet stores that I suspect are cheaper. But you know what? Poor people don't have automobiles, and they can't get to those places. They go shopping in local mom-and-pop stores where the prices are often a lot more expensive.

We can go on and on. Again, I think your job is a very difficult job, weighing all of these factors. But I think the evidence is quite overwhelming that it is very expensive to be poor. When you bounce a check, if you don't have money, then you've got to pay $15 to the bank, or $20 to the bank.

But, I mean, is there a prejudice that discriminates, in a sense, against the poor who don't have the freedom of mobility to purchase certain types of products?

Ms. ABRAHAM. We're attempting to track not—maybe I can clarify this point. We're not trying to track the level of the expenditures that people have to make. We're tracking the change in those expenditures. So I can't tell you whether things cost poor people more than rich people.

Mr. SANDERS. But if there are changes because these large discount stores are selling products cheaper, and you're going to track that.

Ms. ABRAHAM. We don't pick that up directly. If it's true that an older store is selling something and a discount store comes in and sells it for less, the way the index is currently constructed that would not show up.

Mr. SANDERS. OK. Thank you. Let me just conclude by saying, most importantly, you've got to maintain your intellectual independence from all political pressure, in my judgment, and I hope that you will do that.

Mr. SNOWBARGER. Let me just followup on that comment. I want to reiterate what I said my initial remarks, and that was, I don't think anybody is asking for this process to be politicized. What we are trying to do, since we incorporate your product in what we do, we need to have a sense that we are using an accurate projection, that we are using the proper test, when we adopt policy.

I think that's really the reason for the questions that I've had, at least, particularly about the delays and the R&D that's involved in this.

Go ahead.

Ms. ABRAHAM. On that point, I certainly agree. Our objective is very much to produce the most accurate statistics possible. And I can assure you that, since I have been at the Bureau, I expect before that but certainly since I have been there and at the present time, we are working aggressively toward that end.

I also would like to say that we can address some of these issues that have been raised and we are working toward addressing them. In the budget proposal that we currently have pending before the

Congress, we have laid out all of the steps that we think we know how to take, at this point, to produce the best measure possible.

Having said that, I think it's also important to be clear that there are some things that have been raised as issues that I just don't think we know how to address at this point. So I don't want to give the misleading sense that it is possible for us, or that anyone knows how, to produce a perfect, true, cost of living measure.

I can elaborate if you would like. This point is discussed a bit in my formal statement. There are things that I think the state of knowledge in the economics and statistics professions is such that we just don't know how to address.

Mr. SNOWBARGER. OK. Let me go back to an earlier line of questioning. Mr. Shays picked up on it a little bit. I had indicated, in my initial questioning, I was concerned about—well, first, with the Stigler Committee report, that we had a 17-year lag before we at least had major changes in how we did things. Then I had mentioned a decade, and you weren't sure where that came from.

As it turns out, it came from an April 11, 1997, Wall Street Journal article where—well, the headline is, "Labor Bureau Unveils Experimental CPI." I presume that's this geometric mean that you were talking about.

Ms. ABRAHAM. Right.

Mr. SNOWBARGER. And one of the comments was, "BLS officials stressed yesterday that the change has been under consideration for more than a decade." That's the kind of statement that concerns me. I understand the lead time on a weapons development system. I'm not sure I understand that kind of lead time on a statistical measure.

Ms. ABRAHAM. The person who presented that press briefing is here.

Is that accurate?

There was a misunderstanding. The quotation gives a misleading impression.

Mr. SNOWBARGER. Well, I know the chart that they have in here shows from 1991 projected out to 1997.

Ms. ABRAHAM. Right. We went back to 1991 and constructed the data.

Mr. SNOWBARGER. You reconstructed the data.

Ms. ABRAHAM. Yes.

Mr. SNOWBARGER. OK. Well, that's a different line of questioning altogether. But I am concerned that it takes us as long as it appears to, to get these changes in place.

Ms. ABRAHAM. I'm concerned, too. As I have indicated, certainly in my time at the Bureau, we have been working very aggressively to make those improvements that we could identify as being possible to make in the CPI.

I've only been at the BLS for getting on 4 years now. My Deputy Commissioner, Bill Barron, has been at the Bureau for more than 25 years, and he tells me that the budget proposal that we currently have pending before the Congress is the first proposal in which we have had the opportunity to ask for resources to speed up our work.

So I think there may be issues with respect to a sense of urgency at points in the distant historical past that people on the staff may or may not have had, and I just can't speak to that. Certainly, at this point, we have a sense of urgency. But I think that there are also issues with respect to how interested the Congress, for example, might or might not have been in funding improvements that, in another context, could have been perceived as simply esoteric.

Mr. SNOWBARGER. Understand.

Mr. SHAYS. Would the gentleman yield?

Mr. SNOWBARGER. Yes, I would yield.

Mr. SHAYS. I just really want to be clear on the concept of "ask." I don't want to split hairs here, but I blame Congress when Congress is asked and doesn't step forward, or I blame Congress when Congress should have the knowledge and should step forward. I blame any department that doesn't ask for it. And so Congress can't prevent you from asking for something.

So I don't understand the concept of "ask." Are you saying the administration didn't allow you to ask for it?

Ms. ABRAHAM. Since I have been at the Bureau, I feel like we have been moving forward aggressively, and that's the only period of time to which I can speak directly.

Mr. SHAYS. OK. But you put on the record, and it is on the record, that this is the first time you've been able to ask for it. I do not understand that. I want you to explain that to me.

Ms. ABRAHAM. This is information that was given to me by my Deputy. Could I ask him to come forward?

Mr. SHAYS. Sure. We need to swear your Deputy in, though, when he comes.

Would you swear in the Deputy?

Ms. ABRAHAM. He really is in a better position to provide historical context than I am.

Mr. SHAYS. No, I don't mind. Let me just say something, if I could, Mr. Chairman.

We're trying to understand something. If there's any other person—we're not trying to put you on the line here, if others can share information. So if you have anyone else you would like to come up and have us swear in, I think we should do it, and then we could have more dialog.

Ms. ABRAHAM. I think, in terms of the history of the BLS budget, Mr. Barron is the best person.

Mr. SNOWBARGER. Sure.

[Witness sworn.]

Mr. SHAYS. I thank the gentleman.

Mr. SNOWBARGER. I guess the question is before you now, of Mr. Shays. Please identify yourself for the record.

Mr. BARRON. My name is William Barron. I'm the Deputy Commissioner of the Bureau of Labor Statistics.

Mr. SHAYS. One of the things that I would like to just be clear on is that I do come with this bias. First, I don't come with a bias that we should use the CPI to balance the budget. In fact, I recommended to my own leadership that we should not even include the CPI, and any dividend should be a dividend. In other words, if there's a change in the CPI and there's a savings to the taxpayers, that should just be a plus. So I just want to say that to you.

But what I do come with a bias on is that we should move more quickly. I'd like to know what kind of resources you have available and what kind of resources you think you need. And I can forget the other question about the "ask" issue, because I think I know the answer, and I think it won't get us much. So tell me what kind of resources you have and what kind you need.

Mr. BARRON. The ongoing budget for the Consumer Price Index is about $41 million a year. That's an estimate for fiscal year 1997. That excludes the cost of the expenditure survey, the continuing consumer expenditure survey, which we put in place in the late 1970's. That was really the first time we had the opportunity to get the funding to do that. So it became operational in probably 1979, 1980. That would be another $18 million or so.

I'd like the opportunity to provide some of these numbers for the record, because I'm doing this from memory.

Mr. SHAYS. Sure.

Mr. BARRON. The research budget in the price program is, I would say, approximately a million, million and a half dollars. It's very small. At any rate, I agree with you, Congressman, that the agencies have a responsibility to ask for things.

So I would put it this way: I think our 1998 budget proposal enhancement level represents the most aggressive thinking that we have had the opportunity to make, and it represents the most aggressive set of proposals we know how to make, at this time, to speed up this process.

Mr. SHAYS. The second part of the question is the one I care about, not that you've been able to ask. But are you asking, in your 1998 budget, what you need to move as quickly as conceivable?

Mr. BARRON. As we know how to do. "Conceivable" is a tough one, Congressman.

Mr. SHAYS. As you know how to do.

Mr. BARRON. Yes, sir.

Mr. SHAYS. OK.

Mr. BARRON. Could I add one more thing? In the past, you know, there are a lot of constraints. I don't want you to feel that anybody from the BLS has blamed the Congress for things. There are a lot of budget constraints we operate under before we are able to present things to our appropriations staff, which has been very supportive when we've had the opportunity to present things. I'm going back in time, prior to the tenure of the current Commissioner.

Mr. SHAYS. I'm not just focusing on this administration. We're talking different administrations.

Mr. BARRON. Right.

Mr. SHAYS. But are you saying that—have you asked for more in your research side of the budget and been turned down by—who would you report to? I don't know.

Ms. ABRAHAM. The Secretary of Labor.

Mr. BARRON. Secretary of Labor.

Mr. SHAYS. And then he has to—or "she," in many instances—reports to OMB?

Mr. BARRON. The Office of Management and Budget. Sometimes, over my career, we've had sort of a bifurcated process.

Mr. SHAYS. What I want to know is, in the last 4 years, have you requested—is this the first time you have made a request to your Secretary to increase the research part of your budget?

Mr. BARRON. I could answer that—let me answer that the way that gives you the answer that's most appropriate for your question. You used 4 years, and that covers that time when I was Acting Commissioner. During that time, we did ask for money to revise the Consumer Price Index, and that money did not make it—that request did not make it to the Congress.

Mr. SHAYS. And I accept your point, Ms. Abraham, that Congress could have been focused on this 4 years ago, as well. So I accept that.

Mr. SNOWBARGER. If I could, I've got three questions here, real quickly.

The first one really kind of goes to this budget request and a question that I have about how we go about this process. Just for instance, on your web site, you list 12 other statistical Federal agencies that compile economic data. Are we, in the Federal Government, getting the most for our money out of those 12 different data collection agencies? Do you share information? Do you collect the same kinds of information? Can you share information?

Ms. ABRAHAM. There currently are constraints on our ability to share information with the other statistical agencies. That's something that I think it would be desirable to address.

Mr. SNOWBARGER. What prohibits you from doing that?

Ms. ABRAHAM. There are statutory barriers to sharing information. The Census Bureau, for example, is covered by a law that says that when they collect information, either from businesses or from individuals, that they can't share those individual records with anyone else, and that includes the other statistical agencies. I think it would be desirable, for a variety of reasons, for us to be allowed to share that information, for carefully specified purposes, in a constrained kind of way.

Having said that, it is not my sense that there is much duplication in the activities of the statistical agencies. The only real example I can think of is that, because of legislative constraints on sharing data, the Census Bureau maintains a list of establishments that they use for constructing samples for surveys, and we maintain a separate list.

Beyond that, I know of no real examples of duplication of effort. I think that there would be things that we could do that would let us improve our statistics, if we were able to share information, and maybe around the margin, some efficiencies.

Mr. SNOWBARGER. Well, going back to some of the questions that were asked earlier about specific segments of the population, whether its the poor, whether its the elderly, however we're going to divide up the population, don't you have access to census data that would at least give you some educated intuitive approach to defining those things, and about buying patterns, things of that nature?

Ms. ABRAHAM. We have information from our consumer expenditure survey on what older individuals buy.

Mr. SNOWBARGER. That would be more accurate?

Ms. ABRAHAM. I think our consumer expenditure survey gives us the best, as far as I know, really the only, available information on that. The problem isn't that the information is not accurate; the problem is that the sample is small, so there is noise in the data, which constrains our ability to construct measures that are precise.

Mr. SNOWBARGER. Well, I would appreciate it if you could let the committee know what barriers there are in statute to sharing this information, so that we might take a look at doing that.

Ms. ABRAHAM. I would be very happy to do that. I would say though, that I don't think that the information sharing is really going to be directly helpful in addressing the issues we've been discussing today.

Mr. SNOWBARGER. I yield to the chairman.

Mr. SHAYS. Mr. Towns, I just have one more question. Do you have any questions?

Mr. TOWNS. No. I just want to find out why. I don't understand, if you can use census data, why it wouldn't be helpful. I don't quite understand that. Could you just sort of spend a moment educating me?

Ms. ABRAHAM. Why the statistical agencies being able to share information wouldn't be helpful?

Mr. TOWNS. No, no, no. If you have the information that is collected, that it would not be helpful to you. The census information, we're talking about.

Ms. ABRAHAM. I had understood the subject we were discussing here to be, specifically, assessing the expenditure patterns of older individuals. Census really doesn't collect much in the way of—I don't know that it collects any information on those expenditure patterns, and certainly not at the level of detail that would be helpful to us in producing the Consumer Price Index.

For producing the Consumer Price Index, we need to have very detailed information on expenditures in each of 200-plus categories of items in order to appropriately weigh the index. And Census just doesn't collect anything like that.

Mr. TOWNS. OK.

Mr. SNOWBARGER. Mr. Shays.

Mr. SHAYS. Just as Mr. Sanders was talking about, and we on the committee were talking about the differences in cost of living for, say, a senior versus a young family, there obviously are regional differences. I just need to have a sense. My brother-in-law has bought a home in Georgia, three and one-half baths, almost 4,500 square feet, for $215,000. In my district, that would cost between $600,000 and $1 million.

Are elderly—in concentrated areas, would I make assumptions that cost-of-living in Florida would be lower than cost-of-living in New York, or would it parallel?

Ms. ABRAHAM. There are really two different things, I think, embedded in your question. One is, what's the level of the cost of living?

Mr. SHAYS. Right.

Ms. ABRAHAM. That's not what the CPI is trying to measure. We have been working, on an experimental basis, on trying to put together measures that are informative as to differences in cost levels across geographic areas, but that's not the CPI. The CPI is just tracking how the prices that consumers pay for the things they purchase are changing. It may well be that there are differences in that across geographic areas, too.

Mr. SHAYS. You are saying the base is lower to start with, but the cost of living may go up about proportional?

Ms. ABRAHAM. Right.

Mr. SHAYS. OK.

Ms. ABRAHAM. But we do produce, as a by-product to what we collect or produce, the national index, regional indexes. So that's something that one can take a look at.

Mr. SHAYS. Let me just nail this down a little bit more. So even though I see wide disparities of prices, would it be your testimony that cost of living tends to go up pretty much—you don't see the wide differences, in terms of cost increases?

Ms. ABRAHAM. I would want to go and look at the data, specifically, but it is not my sense that we've seen dramatic differences across geographic areas in the rates of growth of consumer prices. I would like to provide the data for the record, if I could.

Mr. SHAYS. Sure. Thank you. I appreciate the committee's indulgence.

Mr. SNOWBARGER. If I can finish up with one final question. As you've talked today, and we've been talking about process and the methodology that you use, you indicated that there is a certain methodology that you have instituted already that has made a downward adjustment of about two-tenths of a percent, I think is what I remember you saying.

Ms. ABRAHAM. Right. On net, over the past couple years.

Mr. SNOWBARGER. Right. And then the possible shift to a geometric mean might mean an upper limit of a quarter of a percent, but that would be a downward adjustment.

Ms. ABRAHAM. It would slow the rate of growth of the index also.

Mr. SNOWBARGER. OK. And I guess the overall question, then, based on two things, is that thus far, as you've tried to determine how methodology ought to be changed, all of those would seem, at this point in time, to indicate that the Consumer Price Index, as we have been calculating it in the past, has been overstated?

Ms. ABRAHAM. Well, we've made a number of changes over the past few years. On net, those changes have led to a slowing in the rate of growth of the index. There was a piece of the way we were putting together the housing measure that we changed that worked in the opposite direction.

Mr. SNOWBARGER. But the net.

Ms. ABRAHAM. The net effect has been to slow the rate of growth of the index.

Mr. SNOWBARGER. Again, getting back to the point that, at least from your research thus far, changes that you feel are legitimate and need to be made would indicate that we have been overstating, in the past, and we need to adjust it so that the—I forget what you said—that the rate of growth is not as fast?

Ms. ABRAHAM. The changes we have made, and the one change that we are looking at making, that I can give you any quantified information about, have worked and will work, on net, to slow the rate of growth of the index.

Mr. SNOWBARGER. Thank you.

Are there other questions at all?

Mr. TOWNS. No. Thank you very much.

Mr. SNOWBARGER. Thank you very much, Ms. Abraham. We appreciate your being here.

Ms. ABRAHAM. Thank you.

Mr. SNOWBARGER. We will make some adjustments real quickly here to get our second panel moving.

[Witnesses sworn.]

Mr. SNOWBARGER. Our second panel, I might just introduce you all real quickly before we get started. Our second panel consists of Mr. Charles Hulten, professor of economics, University of Maryland; Dr. Kurt Karl, senior vice president of U.S. Macro Group, WEFA, W–E–F–A, which I presume you will explain when we get there; Mr. Dean Baker, who is an economist at the Economic Policy Institute; and Mr. Matthew Shapiro, professor of economics, University of Michigan.

Mr. Hulten, we will begin with you.

Mr. SHAYS. Mr. Chairman, I wonder if I could interrupt and just make a suggestion, with your permission, to our panelists.

You have been gracious enough to sit here and listen to the questions already asked, and you have been gracious enough to listen to the testimony, as well. If you are so inclined not to read your testimony but want to just jump into those issues and make comments—in other words, if you want to read your testimony, but if you also want to summarize and respond to some of the questions, I think the committee would appreciate it. We certainly appreciate the fact that you listened to the others.

Mr. SNOWBARGER. I might also remind the witnesses that we have allowed for your full statements to be put into the record in their entirety. So keep that in mind.

Mr. SHAYS. You've got lots of options.

STATEMENTS OF CHARLES R. HULTEN, PROFESSOR OF ECONOMICS, UNIVERSITY OF MARYLAND; KURT E. KARL, EXECUTIVE VICE PRESIDENT, U.S. MACROECONOMIC SERVICES, WEFA; DEAN BAKER, ECONOMIST, ECONOMIC POLICY INSTITUTE; AND MATTHEW D. SHAPIRO, PROFESSOR OF ECONOMICS, UNIVERSITY OF MICHIGAN

Mr. HULTEN. I would like to summarize my written statement, if I could, because there was so much ground covered earlier today that I'm not sure I would know where to start, on a piecemeal basis.

I would like to address my remarks today primarily to the issue of quality change in the CPI. Of all the problems that beset the CPI, this is undoubtedly the hardest. The redoubtable Adam Smith looked at the issue and walked away from it, saying that it's such a very disputable matter that he saw the whole issue as somewhat uncertain.

This is echoed, I think, down over the years, and it has certainly been repeated by one of my fellow panelists who called a quality change the "house-to-house combat of price measurement." But just because it's hard doesn't mean we can afford to ignore this issue. Mismeasurement of quality translates directly into mismeasurement of price. And according to the Boskin Commission, about half of the 1.1 bias that they identified across the board in the CPI is due to the quality area.

Unfortunately, there aren't any quick fixes for these problems. To use a current phrase, no low-hanging fruit on the quality tree. But there are some things we can do now. The first thing is to make a commitment to invest in our statistical infrastructure. I have, in my written testimony, given some of my ideas, and I would like to give some of the reasons why I think these ideas might be worthy of consideration.

Much of my thinking is based on some research done by BLS staffers, Brent Moulton and Karin Smedley, who studied the CPI process for the year 1995 and observed that, in the items that they studied, the total price change was 4.7 percent. But this really was not inflation. Instead, the BLS undertook a number of adjustments, technical things like the link, and class mean, overlap, and direct quality adjustment methods. When the smoke settled on this, the actual change in the CPI was only 2.2 percent. In other words, the BLS is already making adjustments to the CPI of more than half of the total observed price change, for things that might loosely be called quality.

And I have, in my examination of the CPI problem, zeroed in on some of these methods and come to the conclusion that, at least in one case, that is to say the link method, that they may be overadjusting for quality, not underadjusting, as is commonly believed. On the other hand, there are other areas, another method, the direct quality adjustment method, was probably biased in the other direction.

I think that sorting out the various biases and what they already do should be a major item on their research agenda. And these are not the only things to worry about. Quality and new goods come in during this process. We heard described earlier sample rotation. About one-fifth of the CPI sample is changed every year, and this is an opportunity for new goods to come in.

Unfortunately, the uptake process is rather slow, because it's essentially a reactive process rather than a proactive process. As a result, we see instances like cellular telephones, which were introduced in 1983 and are still not in the CPI.

This lag is only part of the problem, however, because when items like cell phones do come in, they are brought in in a way that doesn't change the overall level of the index. What happens instead is that only subsequent changes in this good are allowed to affect the CPI. But surely there is a gain to the consumer at the point of entry of the new good. The technical term for this is "consumer surplus," and in the current BLS procedure is assumed as essentially zero.

This leads, I think, to a variety of potential opportunities to improve the statistical infrastructure. I would say, as a first step, that I would like to see the study by Moulton and Smedley made a routine part of the BLS study program.

I found it very useful, and I think it would be very useful to have this provided every year, and indeed extended in a number of ways that I have indicated in my testimony. I think, if we are going to embark on a procedure where we urge BLS to make changes, we need tools for diagnosing the effects of these changes.

Another set of ideas about the BLS itself, and they are somewhat technical, but I will mention them anyway. First, I think they should eliminate the use of the link method. This will not be possible immediately, but it, I think, should be set up as an objective. And this is the predominant way that they actually handle quality.

Second, I think they should accelerate the sample rotation period for goods in which the pace of innovation is obviously very rapid. I think they are planning to do that, in fact, but I think even more proactive methods might be adopted. I'm not sure what they are, but I think they should be at least considered.

Finally, I think they should adopt superior valuation for the new goods. Instead of assuming that the consumer surplus is zero, I think some other assumption might be better.

I think, taken together, this will move the CPI more toward a dynamic cost of living index. But I also want to emphasize that the issue is not really one of just ordering the BLS to get it right. I think part of the problem arises because they had been, historically, pursuing an objective of pricing a fixed bundle of goods, and now the objective has shifted, and this has introduced a whole host of new problems to be dealt with.

I think that dealing with these problems is going to cost a lot of money. It's my reading, anyway. But I do think the benefit cost ratio is quite high. The Boskin Commission has estimated that their 1.1 bias is adding about $1 trillion to the Federal deficit over 12 years. If just a few percentage error points in this estimate will amount to billions of dollars. So I think spending a few million dollars to try to improve these estimates would have a very, very high benefit cost ratio.

The final thing I would like to say relates to something that has been mentioned in the earlier proceedings, and that's the question about an externally imposed fix and whether it will happen or won't.

I would just say that frustration or delays and technical difficulties, combined with the prospect of substantial budget savings, might make this look like a good idea, but I personally believe that it is emphatically the wrong approach. Because I think the uncertainty about the true bias is sufficiently large that any number that you are likely to select is probably going to be the wrong number, and it's probably going to be wrong by quite a large amount.

And I think it sets a terrible precedent for the American statistical system. I would just ask the question: Will frustration over the upcoming decennial census lead to more external fixes? I really think there is no substitute for accurate measurement, and I think you ought to be prepared to fund the investments necessary to build up our infrastructure.

Thank you.

[The prepared statement of Mr. Hulten follows:]

Quality Change in the CPI[1]

Written Statement Prepared for the Hearing on
"The Bureau of Labor Statistics' Calculation of the Consumer Price Index"
Committee on Government Reform and Oversight
Subcommittee on Human Resources
U.S. House of Representatives
April 30, 1997

by

Charles R. Hulten

Professor of Economics
University of Maryland

and

Research Associate
The National Bureau of Economic Research

I would like to address my remarks to the issue of quality change in the Consumer Price Index. Of all the problems that beset the CPI, quality change is undoubtedly the most difficult to resolve. The redoubtable Adam Smith walked away from the problem with the observation "Quality ... is so very disputable a matter, that I look upon all information of this kind as somewhat uncertain." And, this uncertainty has scarcely diminished over the past two centuries. Quality has recently been called the "house-to-house combat of price measurement" by Matthew Shapiro and David Wilcox.

The problem cannot be ignored just because the struggle is difficult. For, mismeasurement of the quality dimension translates directly into the mismeasurement of price changes. According to the report of the Advisory Commission to Study the Consumer Price Index (or Boskin Commission), improvements in product quality and the introduction of new goods account for over half of the 1.1 percent bias in the CPI. The Boskin Commission estimates that the growth rate of the CPI would be 0.6 percentage points lower if the quality improvements were accurately reflected in the index.

There are no quick fixes for the quality problem, no low-hanging fruit on the quality tree. There are, however, steps that can be taken that might, in time, ameliorate and perhaps ultimately resolve the problem. What is needed now is a commitment to investment in the statistical infrastructure of the CPI program. My remarks today contain some suggestions about the construction of this infrastructure.

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[1] This testimony is based, in part, on a paper prepared for publication in the May/June issue of the St. Louis Federal Reserve Bank's Review. Opinions expressed herein are solely my own and should not be attributed to any organization with which I am associated or which supported any part of the research on which this testimony is based.

The CPI Program

A BLS agent goes to an outlet each month with a list of items to price. Most of the items on the list are found in the outlet and their price is recorded, but about 4 percent of the items are missing in any month. For each missing item, the agent first determines if it has been discontinued or is temporarily unavailable. If temporarily unavailable, a price is imputed and altered when the item reappears in the outlet. On the other hand, if the item (a particular brand of aspirin, say) is discontinued, the agent uses a checklist to select a substitute item for pricing (another brand of aspirin if available, or a related item like ibuprofen if not). This substitute item is reviewed by a BLS commodity specialist to determine if it is comparable to the old item (aspirin), in which case the difference in the price of the old and new item is treated as a pure price change. About two-thirds of the substitute items were treated as comparable in 1995 (see Table 1).

For those substitute items not deemed to be comparable, the price of old and new items is compared and some fraction of the price differential is attributed to pure price inflation and the rest to differences in quality. This comparison may be accomplished by directly estimating the quality component of the price differential. This can be done either by using a hedonic-price regression to measure quality change or by estimating the direct production costs of achieving the new level of quality, adjusted for profit margins. Price hedonics are used mainly for housing and apparel. The production-cost approach is used mainly for autos, but other items are treated this way as well. Only about 30 percent of substitute items are handled by the direct comparison method.

The vast majority of new items are dealt with using the link method, and since 1992, the class-mean method.[2] The pure price change between two items is imputed as the average change for other items in that general category.[3] In the class-mean method, the price change is imputed using the average change for related items in that category rather than the average of all items. Any residual price change is implicitly attributed to a change in quality. Thus, if the price of a package of aspirin was $2.00 last month and the substitute package of ibuprofen costs $3.00 this month, and there was no price inflation in other related pharmaceuticals, the entire $1.00 price differential would be attributed to quality.

The total effect of these procedures on the CPI is dramatic. Recent research by BLS staff members Brent Moulton and Karin Smedley indicates that the raw price quotes gathered by BLS agents in 1995 resulted in a total unadjusted price change of 4.72 percent.[4] Adjustments totalling 2.56 percent were made to this figure using the link, class-mean, overlap, and direct quality adjustment methods. The result was a change in the CPI for the covered items of only 2.16 percent. In other words, BLS procedures led to a large adjustment in the raw prices collected by agents, contrary to the popular impression that the CPI fails to capture quality changes.

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[2] There is also an 'overlap' method which is used for a very small fraction of the non-comparable substitute items, mainly for technical corrections.

[3] As described by Armknecht and Weyback (1989, p.109).

However, this 2.56 percent adjustment is not a measure of the true rate of quality change in the goods and services consumed in 1995. It is, instead, composed of three distinct elements:

- Item repackaging. The change in the units with which items are measured. There are instances in which smaller packages (quarts of milk) are substituted for larger packages (gallons) and vice versa. On average, there are as many up-sizings and down-sizings, but they do not cancel each other because of the averaging procedure used by BLS.

- Sample Churning. When an item like aspirin goes missing and is replaced by a brand of ibuprofen, there is a change in quality arising from the shift in sample composition. However, this type of quality change is different from a net change in quality in the underlying assortment of consumer goods (the kind of quality change that enhances consumer welfare). The former arises from the fact that a different subset of goods is being sampled and that the average quality in one sample differs from the average quality of the other.

- True Quality Change. When an item is discontinued, its replacement may be an improved variety of that item. Or, the replacement item may be an entirely new good in the market place. In such situations, there is a net quality change in the quality of the underlying assortment of consumer goods and therefore a change in consumer welfare.

Errors made in estimating either item repackaging or sample composition effects may not bias the CPI. Part of the repackaging effect may, for example be assigned erroneously to the sample composition or true quality categories without affecting the size of the CPI. Only the estimate of true quality change is affected in this case. Damage is done, however, when a bias in any one of the categories changes the total size of the 2.56 percent adjustment.

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[4] The Moulton and Smedley study includes items that cover 72 percent of items in the CPI-U version of the market basket. According to these authors, "Excluded from the studies were price quotes for residential rent and homeowners' equivalent rent (all years), and household insurance, postage, babysitting, and care of invalids (1995) within Housing; used cars (all years) and automobile finance charges (1995) within Transportation; health insurance (all years) within Medical care; magazines, periodicals and books (1983 and 1984) and sports vehicles, including bicycles (1995) within Entertainment." The largest component of the missing 28 percent is the rent and rental equivalent of residential housing, accounting for 25 percentage points.

How much error actually creeps into the CPI from these sources? This depends on which methods are used to separate price and quality: the link, class-mean, and direct-quality methods. Each has its own peculiarities and should be considered separately.

Biases in the Link and Class-Mean Methods

Moulton and Smedley estimate that the repackaging effect accounted for 0.8 percent of the 2.56 percent total "quality" estimate in 1995. Two-thirds of the repacking effect was concentrated in the link and class-mean methods. They go on to allocate the remaining 1.76 percent among the various methods. They do not, however, separate their results into sample-composition and true-quality effects. The Moulton-Smedley estimates, reproduced in Table 2 of this testimony, thus commingle these two effects and complicate the discussion of possible biases.

Table 2 reveals that the link method has the practical effect of attributing almost all (99 percent) of the raw price increase to quality change and nothing to pure price inflation in 1995 (after adjustment for repackaging). This is an improbable result, in view of the positive price inflation evident in the other items (e.g., 1.06 percent in nonsubstitute items). Based on the experience of items handled with the closely related, but more precise, class-mean method, one would predict that the pure price component of the linked items should be 0.22 percentage points rather than the 0.02 percentage points reported in Table 2. In other words, there is a presumption of bias in the link method that understates the CPI by 0.2 percentage points in 1995.

The class-mean method probably gives an accurate result for those items which enter the CPI because of sample churning. In the substitution of $3.00 ibuprofen for $2.00 aspirin, for example, some fraction of the $1.00 price differential is due to pure inflation but most is probably due to the different nature of the items. However, this is not necessarily true when the substitute item is a new good or a "new and improved" variety of the old item. Indeed, the reason that some items are discontinued is precisely because they have been displaced by superior alternatives. In such cases, the class mean method may overstate quality. As Reinsdorf, Liegey, and Stewart (1996) observe in their study of apparel and autos, "manufacturers often time real price increases to coincide with product redesigns or the introduction of new models." These real price increases will tend to be confused with quality improvements, with a resulting overestimate of the quality effect. Moreover, the producers of new goods can sometimes extract a monopolistic premium arising from patents (or from a lack of effective substitutes) in the early stages of the item's product cycle.

Some of the price differential attributed to quality by the link and class-means ("LCM") methods may therefore conceal some a hidden price increase. The true extent of the implied bias is not known, but some insight into its magnitude can be gleaned by comparing these methods with the direct quality adjustment ("DQA") methods. According to Table 2, the latter imputed only about one-third of the raw price change to quality, compared to nearly

100 percent with the link method and 79 percent with the class-mean method. If the true proportion of quality change in the raw price of the items handled with the LCM approach were actually the same as the proportion of quality change with DQA, a rather large bias would result. Just how large is unknown, but the CPI might be understated by as much as 0.97 percentage points if all items currently handled with LCM procedures were new or improved goods rather than merely sample replacements.[5]

A bias of this magnitude is improbable. There is no reason to expect that the items handled with LCM methods should experience the same relative degree of quality change as those items subject to DQA (largely autos and apparel). Moreover, I will argue that the DQA methods are themselves likely to be biased against quality change. And, finally, the size of any bias depends on how the sample of items is split between sample churning and true quality change and this is not known. Nevertheless, there is a strong presumption (shared by BLS staff) that the link, and perhaps the class-mean, methods are biased in favor of quality change and tend to understate the true CPI. Sorting out this problem should be a priority for further research at BLS.

The Direct Quality Adjustment Method

If quality change could be measured accurately using direct methods, the LCM procedures would be of marginal significance. The latter estimate quality as a residual (the raw price change not attributed to the mean change in class price) and are, at best, approximations. The DQA methods -- the price-hedonic regressions and the production-cost approach -- have the virtue that they measure the quality content of specific items and therefore promise more accuracy than the indirect methods. But, this is a promise that has yet to be fulfilled. Both types of DQA are biased against quality change.

Consider the production-cost approach. This procedure assumes that the size of quality improvements is proportional to the increase in direct production costs associated with achieving the increment, adjusted for profit margins. This procedure is only accurate if the cost of quality change is directly proportional to the amount of quality change. However, there are many instances in which the cost increase is less than proportional.[6] In such cases, the increase in item cost understates the true amount of quality change.

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[5] The magnitude of this "link" bias was smaller in early years, growing from -0.54 percent in 1983, to -0.73 percent in 1984, and -0.97 percent in 1995.

[6] The production of new goods is often the result of significant research and development. Any R&D program involving the generation of new knowledge is likely to generate spillovers that the innovator cannot capture. In these cases, the total amount of innovation (and quality change) is likely to be greater than the R&D costs. See Hulten (1997) for additional discussion.

The price hedonic regression approach is also subject to this bias. When the cost of quality change increases less rapidly than quality itself, the price-hedonic regression yields an underestimate of the true extent of quality change.[7] In the extreme case in which quality improvements are entirely costless, the price hedonic approach will give the erroneous result that no quality change has occurred at all.

The BLS has made greater use of DQA in recent years, at the expense of the link method. An increased emphasis on direct quality estimation is a desirable policy objective. However, a move to direct methods must be accompanied by the improvement of these methods if the potential benefits are to be realized. And, the issue of quality-cost proportionality bias is one of the issues that must be sorted out by further research.

Comparable Substitutes

Another bias may arise from the way judgments are made about item substitutions. When an item is missing from the market basket, BLS commodity analysts must determine whether a new item is comparable to an old item. There are guidelines for this purpose and cases are reviewed, but a considerable amount of individual judgment is still involved. In this regard, it may not be easy for agents to spot the true extent or nature of a model change or to determine which changes are cosmetic and which changes are substantial. This may lead to conservative judgments, but the direction of the bias is not clear. However, it may indeed be more difficult to spot an erosion in quality than to observe positive improvements, since producers have an incentive to conceal the former and advertise the latter.

About two-thirds of item substitutions were treated as substitutes in 1995, up from around 40 percent in the early 1980s. When a substitute item is deemed to be comparable to an old item, the entire difference in price is attributed to pure price change. If there actually were quality improvements, they would not be reflected in the CPI. This omission will tend to overstate the CPI.

New Goods and Sample Rotation

The "philosophy" of the CPI is to measure price inflation with respect to a market basket of items which is held fixed over time. By repricing the same items month are month, a measure of inflation is obtained that does not confuse changes in price with changes in the items consumed. There is a virtue in this simplicity, but there is also a defect: as the prices of some items rise faster than others, consumers are unlikely to buy the same mix of goods, and will instead shift spending away from the items which are becoming relatively more expensive. Since the CPI tracks the cost of the fixed market basket, it tends to overstate the cost increases that consumers actually experience. The term of art for this phenomenon is "substitution bias."

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[7] The quality-induced change in price is the variable on the left-hand side of the hedonic regression. If price and quality are not proportional, the regression of price on the quality characteristics on the right-hand side of the hedonic regression does not yield a pure estimate of quality change. Rather, it yields the degree of quality change scaled by a cost-of-quality factor. Additional details are provided in Hulten (1996,1997).

Another implication of the fixed market basket philosophy is that superior new goods would never, in theory, be incorporated into the mix of goods. Quality change is thus impossible under a pure fixed-basket approach. However, theory is defeated by practice. Old items are discontinued at a rate of about 4 percent per month and new items are substituted during the repricing process. This results in a large annual turnover of items in the market basket, some of which are improved versions of old items (though the rate of "uptake" of such goods is unknown).

New or improved items also enter the CPI market basket during the process of "sample rotation." This is a process by which one-fifth of the market basket is changed each year. It provides another opportunity for new goods to find their way into the CPI sample. This process is, however, reactive instead of proactive and, as a result, major innovations often take years to enter the CPI. Cellular telephones were introduced in the market place in 1983 and 1984, but still are not represented in the CPI market basket. Air conditioners, microwave ovens, VCRs, and personal computers have all been cited as examples of the slow introduction of major new goods.[8]

The lag in introducing new goods is only half the problem. Once they are brought into the CPI, new goods enter the market basket without changing the level of the CPI at the time of entry. Only subsequent changes in their price are counted. Thus, the implicit price reduction that occurs at the time when the new item is "rotated" into the CPI (the consumers surplus) is missed. The net result is to overstate the CPI and undercount quality improvements.

Conclusions and Recommendations

There is widespread agreement with the Boskin Commission's recommendation that the CPI should be a cost-of-living index. Recent remarks by BLS Commissioner Katherine Abraham indicate that BLS has adopted this recommendation as a long-run goal. However, attainment of this goal will not be an easy task and will be particularly difficult in the area of quality change.

Much of the recent discussion has focused on those quality biases which overstate the true price level, but there are also biases which operate in the other direction. The net result is probably an upward bias in the CPI, but the range of uncertainty is quite large. It is possible, though not probable, that fixing all of the quality-related problems in the CPI (including new goods) would lead to little change in the index and might even lead to a small reduction.[9]

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[8] The Advisory Commission (1996) and Krugman (1996,1997).

Not everyone would agree with this diagnosis. However, the one point on which almost all observers agree is that there is a large range of uncertainty about the total size of the CPI bias (0.8 percent to 1.6 percent in the Boskin Commission report, larger on both ends in my analysis). As a first step in reducing this uncertainty, I believe that more information about the anatomy of the CPI is needed. Specifically, it would be extremely helpful to have the type of data assembled in Moulton-Smedley study provided on a regular basis. These data would be useful in diagnosing problem areas and in tracking the effects of changes made to the CPI as a result of the Boskin Commission's report and its aftermath. I therefore recommend that the BLS consider the following options:

- Produce an annual survey of the internal structure of the CPI along the lines of the study by Brent Moulton and Karin Smedley.
- Extend the scope of the Moulton-Smedley framework to include the entire range of CPI items.

Other useful extensions might include:

- Enlarge the scope of the Moulton-Smedley framework to identify those noncomparable substitute items that are simply sample replacements from those that are new, or significantly, improved items. This may require a special subsample of items for follow-up study or specially coding items at the time of sample collection or review.
- Examine a subsample of substitute items treated as comparable to look for hidden changes in quality (positive and negative).
- Study the sample rotation process to determine the extent to which new or improved items enter the CPI sample during rotation, and integrate this study with the Moulton-Smedley framework.
- Provide an overall assessment of how much "true" quality change has entered the CPI each year, i.e., the extent to which new or improved goods are reflected in the calculation of the CPI.

Most of these steps can be achieved in the near term, although a study of the sample rotation process (and any new sampling procedures) may take some time to accomplish. Informal discussions with BLS officials suggests that many of these options are currently under consideration.

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[9] This conclusion refers only to quality change and the new goods problem. There is also a substitution bias, which the Boskin Commission puts at 0.4 percent per year. It is possible that some or all of this 0.4 percent could be eroded if the link-bias turns out to be large, but this is very problematic.

Another set of recommendations involves changes in the CPI itself. The first involves the link method of handling noncomparable substitutes. This method is, at best, an approximation and may be significantly biased. Thus,

- The BLS should continue the trend away from the link method in favor of the class-mean method and direct quality adjustment where possible.

Second, noncomparable substitute items are currently handled exclusively by one of the four methods discussed above. Insights into the bias in each method would be gained if, for some subset of items, more than one method was applied to the same item and the results compared. Thus,

- The link, class-mean, and direct quality adjustment methods should be applied simultaneously to a subset of items in the CPI sample.

Third, direct quality adjustment methods (the price hedonic regression and the production cost methods) currently used by BLS are subject to quality-cost bias. This also applies to the link and class-mean methods.

- This source of bias should be studied by BLS and the different methods improved to the extent possible.

Fourth and finally, BLS should also focus on the two general problems associated with the introduction of new items. BLS is currently considering the possibility of accelerating the sample rotation period of those classes of items in which innovation occurs at a rapid pace. I endorse this way of reducing the introduction lag of new goods. However, I also believe that even more proactive steps should be taken to identify product innovations.

- As a step in this direction, BLS might monitor developments in each product class and publish estimates of the average time lag with which important new goods are incorporated into the CPI sample. Scanner data may be of use in this effort.

New goods currently enter the CPI in a way that understates the value of the item to consumers. It therefore misses the implicit decline in price at the time the new item is introduced (the consumer surplus).

- The BLS should adopt a long-run goal of improving this situation. Techniques are currently under development that may provide a more accurate treatment of consumer surplus than the current assumption that it is equal to zero.

The accurate valuation of new goods is so difficult a problem that no single estimation technique or measurement procedure is likely to command general acceptance for the foreseeable future. Experimentation with alternative methods will undoubtedly be required, and in this process

- Groups of industry or commodity specialists might be empaneled to appraise the plausibility of valuations obtained using different procedures.

These recommendations move the CPI toward a more dynamic cost-of-living index. However, there is no fixed trajectory for achieving this objective. The goal of improving the CPI is not simply a matter of ordering the BLS to "get it right." Much of the "technology" needed to build a true cost-of-living index is still under development and fraught with disagreements over appropriate methodology.[10]

Moreover, much of the academic literature has focused on items for which the pace of technological advance has been particularly rapid (e.g., pharmaceuticals and consumer electronics). A corresponding body of evidence for a broad range of technologically less dynamic (or regressive) consumers goods does not exist. This may foster a skewed perspective on the quality problem.

Progress will cost money, perhaps more money than is currently envisioned. But, it will be money well spent. Remember that the Boskin Commission estimated that a reduction of 1.1 percentage points in the CPI would save over one trillion dollars of federal budget deficit over the next twelve years. An error of just a few percentage points involves billions of dollars. The benefit-cost ratio on a few million dollars spent to improve the CPI is potentially enormous.

Frustration over delays and technical difficulties, combined with the prospect of substantial budget savings, may lead Congress to impose an external "fix" to the problem -- a "silver bullet" solution in which the CPI is reduced by a fixed amount like 0.5 percent or 1.1 percent per year. This is, emphatically, the wrong approach. The range of uncertainty about the true bias is sufficiently large that any number selected by Congress is likely to be wrong, and possibly wrong by a large amount. Moreover, such a course sets a terrible precedent for the American statistical system. Will frustration over the upcoming decennial census lead to more silver bullets? There is no substitute for accurate measurement and Congress should be prepared to fund the necessary statistical infrastructure, an infrastructure that has been sadly neglected in the past.

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[10] Witness the recent papers by Fisher and Griliches (1995) and Hulten (1996).

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Table 1

Relative Importance of Substitutions in the Construction of the CPI[*]

	1984 (%)	1995 (%)
Link method	1.71	0.57
Overlap method	0.23	0.05
Direct qual adj.	0.30	0.41
Class-mean method	N/A	0.32
Total noncomparable	2.25	1.35
Total comparable	1.70	2.54
Total substitutions	3.95	3.90
Nonsubstitutions	96.05	96.10
Total covered CPI	100.0	100.0

[*] The price quotes for several item categories are excluded. (See text for list of items, most important of which is residential rent). The class-mean method was not used in 1984.

Source: Moulton and Smedley (1997), Table 4. Total may not equal 100% because of rounding.

Table 2

Relative Importance of Quality and Pure Price Effects in the Construction of the CPI*

	Quality (%)	Pure Price (CPI) (%)	Total (Raw) Price (%)	Quality (%)	Pure Price (CPI) (%)	Total (Raw) Price (%)
		1984			1995	
Link method	0.99	0.16	1.15	0.99	0.02	1.01
Overlap method	0.14	1.38	1.52	0.00	0.10	0.10
Direct qual adj.	0.10	0.35	0.45	0.11	0.19	0.30
Class-mean method	N/A	N/A	N/A	0.66	0.18	0.84
Total noncomparable	1.23	1.89	3.12	1.76	0.49	2.25
Total comparable	0	1.37	1.37	0	0.60	0.60
Total substitutions	1.23	3.26	4.49	1.76	1.09	2.85
Nonsubstitutions	0	0.14	0.14	0	1.07	1.07
Total Covered CPI	1.23	3.40	4.63	1.76	2.16	3.92
Total CPI		3.90			2.50	

*The price quotes for several item categories are excluded. (See text for list of excluded items).

Source: Moulton and Moses (1997), Table 5. Figures are rounded.

Mr. SNOWBARGER. Dr. Karl.

Mr. KARL. Thank you very much.

You asked about "WEFA." WEFA was originally, in 1963, founded by Dr. Lawrence Klein, Nobel laureate, as Wharton Econometric Forecasting Associates, hence the acronym. In 1987, the University of Pennsylvania was bought out entirely and retained its name, "Wharton," about the same time we were merged with Chase Econometrics, and Chase Bank kept their name, "Chase." Hence, we came up with WEFA.

I would like to just summarize my comments. I will preface that by saying that I am no expert on measuring Consumer Price Indexes; rather, as an economic consulting and forecasting firm, we're experts on the U.S. economy and using the data, rather than measuring these things.

The CPI is a price index which measures the cost of purchasing pretty much a fixed basket of goods, rather than a cost of living index, which is how it is often used. A cost of living index, of course, would attempt to measure what really happens to people, as opposed to what happens to the basket of goods.

It is my opinion, since the CPI is often used as a cost of living index, by Congress in their legislation, for example, on Social Security payments, as well as in private contracts, particularly between labor and management on cost of living adjustments for wage negotiations, that Congress should direct the Bureau of Labor Statistics to actually create an index which is the cost of living index, and provide the necessary funds to create that index.

I agree with the widely accepted view that the measurement of the CPI, with respect to a cost of living, is biased upwards. It overestimates the rate of change of the cost of living. It's important to correct for that, not only because the cost of living index is used in business and government obligations, but also because it would provide a more accurate understanding of what's going on in the U.S. economy.

For example, the CPI is used in producing what we call the gross domestic product information, produced by the Department of Commerce. That is used to adjust the consumption expenditures by consumers and get what is called a "real" estimate of gross domestic product, after-inflation estimate of gross domestic product.

Understanding how rapidly the economy is growing, understanding how rapid inflation is, it's quite important for setting Government policy at the congressional level as well as at the administrative level, not to mention the Federal Reserve Board, with respect to how to adjust interest rates.

In addition, businesses use the GDP numbers as well as the Consumer Price Index numbers to project their product sales. Most of our clients are large corporations or State and local governments, as well as the Federal Government. They use this information to project their sales of refrigerators, or the revenues, in the State of Utah, for example, of corporate tax revenues, or something like that.

It's nicer to have unbiased data when you are projecting sales of refrigerators, nicer to have unbiased data when you are projecting your sales or your revenue.

The estimate of bias by the advisory commission to study the Consumer Price Index, which I will refer to as the CPI Advisory Commission, of an upward bias of 1.1 percentage points per year, seems large to me. An upward bias of about 0.2 to 0.5 seems more plausible.

I do not base this estimate on a rigorous analysis of the CPI. Again, I'm not a statistician. I have worked in statistical offices, have a great deal of sympathy for them, but I base this more on a subjective, intuitive understanding of what's going on in the economy, rather than an assessment of the precise errors in quality adjustment, substitution, et cetera.

With that, I would concur with the previous speaker, Professor Hulten, that we should proceed cautiously with how we adjust the CPI.

I also strongly would like—I think it has been expressed widely this morning that we should keep the bias issue of the CPI separate from the budget process issue. These are two quite separate issues. One deals with measuring something that's going on in the economy; the other deals with raising taxes and revenue, and spending money appropriately.

Mr. SHAYS. Tell me who wants to raise taxes in this group.

Mr. KARL. The fact of the matter is that we do raise taxes, and that's all I meant by that, not up further. I use it in the sense of, they are raised.

Mr. SHAYS. I'm teasing.

Mr. SNOWBARGER. I wasn't here when it was done.

Mr. KARL. Just to reiterate, a more accurate measure of the cost of living is a worthwhile endeavor in itself, that we would like to know what the cost of living—how it is growing over time. That is something that the BLS provides information on, but actually doesn't measure. The CPI was never intended to be a cost of living index.

With that, I will yield.

[The prepared statement of Mr. Karl follows:]

My name is Kurt Karl. I am the head of the U.S. forecasting unit of WEFA, a Primark Company. WEFA is an information service company, providing economic forecasts, data and software to business, financial institutions, universities and government agencies. It was founded in 1963 by Nobel Laureate Lawrence R. Klein. In 1987, Wharton Econometric Forecasting Associates was merged with Chase Econometrics to form WEFA. WEFA has grown to include over 200 econometricians, economists, sociologists, researchers, systems analysts, data experts and support staff. In 1997, WEFA was purchased by Primark and became "WEFA, A Primark Company". WEFA's headquarters are in Eddystone, PA. The company receives approximately $700,000 worth of federal government revenue — or less than 5% of total revenue — mostly in the form of subscription revenue for forecasting services, data and software.

The following points summarize my views on the Consumer Price Index (CPI):

- The CPI is a price index which measures the cost of purchasing a fixed market basket of goods and services. It is not a Cost-of-Living Index (COLI). However, it is often used in business contracts as a COLI and is used by the federal government as a COLI in, for example, making adjustments to income tax brackets and adjustments to Social Security payments. Congress should direct the Bureau of Labor Statistics (BLS) to produce a COLI which would minimize any bias and more closely measure changes in the actual cost of living. Congress should provide the BLS with the necessary funds to produce such an index on a timely basis.

- I agree with the widely accepted view that — as a measurement index of the cost of living — the CPI overestimates the true cost-of-living inflation rate. It is important to correct for this upward bias not only because of its use as a COLI in business and government obligations, but also because a more accurate measure will help us to better understand the U.S. economy. The CPI is used, for example, in creating the real, or after-inflation, consumer expenditure data that is used in tabulating Gross Domestic Product (GDP), the total output of goods and services in the economy. The upward bias in the CPI would imply that we are underestimating real GDP growth in the economy. Many businesses and state and local governments use the GDP numbers, or National Income and Product Account data, to project their product sales. For example, real consumer expenditures on furniture and household equipment might be used to forecast sales of televisions or sofas. The downward bias may cause businesses to needlessly under-forecast their sales.

- The estimate of bias by the Advisory Commission To Study The Consumer Price Index (CPI Advisory Commission) of an upward bias of 1.1 percentage points seems large to me. An upward bias of about 0.2 to 0.5 percentage points seems more plausible to me.

- The issue of bias in the CPI should not be connected to the budget process. The BLS should be producing a COLI which minimizes the problem of biases in index numbers even if movements in the CPI had no effect on the federal budget. Providing a more accurate measurement of changes to the cost of living is worthwhile in itself for the points mentioned above.

CPI vs. COLI

The consumer price index was never designed to be a cost-of-living index. It is designed to measure the price movements of a fixed basket of goods. If consumers never changed what they bought and the goods never changed, then this type of index would be a very close approximation of a cost-of-living index. However, the world and consumer habits do change. A cost-of-living index would attempt to keep up with the changes in goods and services and the habits of consumers, thus more accurately reflecting the changes in the standard of living.

Because the CPI is designed for a fixed basket of goods, its measurement of the cost-of-living is "biased." The bias is a systematic error relative to the measurement of the cost-of-living. Sometimes the price of coffee goes up and consumers purchase more tea than the previous year; this shift in consumer behavior introduces what is called substitution bias. Sometimes a new store opens and consumers drive to a new location and buy the same good, perhaps at a lower price; this is referred to as outlet substitution bias. Sometimes consumers buy a new product, while other times they stop buying goods which were previously purchased; this introduces new product bias. Sometimes the goods themselves change and improve in quality; this leads to quality change bias.

Generally, the biases push up the CPI relative to a true cost-of-living index, though not always. Thus, changes in the CPI overestimate the rise in the cost of living. This presents three problems for businesses. **First**, businesses often use the CPI as a price escalator in contractual arrangements with other businesses. For example, a three-year contract for electrical motors delivered to a customer may be written such that the price of the electrical motors in the second and third year will rise by the same percentage as the CPI. The CPI is often chosen not for its accuracy at reflecting general inflation — or for reflecting the rising cost of electrical motors! — but because the CPI report is easily accessible and the data is not revised. WEFA, for example, has such contracts with a few of our clients. One that I know of is for forecasting services, another is for software deliverables. WEFA did not choose the CPI because of its upward bias, but rather because its escalation is readily verified and is not revised. Any improvement in the accuracy of the CPI's measurement of general consumer inflation would be welcome by most businesses. These types of escalation clauses in contracts are meant to avoid conflict over a reasonable escalation rate. Hence, an improvement in the CPI would tend to reduce disputes over escalation clauses and lead to the CPI being more widely used as a reasonable estimate of general inflation.

Second, businesses use the CPI as the cost-of-living adjustment (COLA) in labor contracts. The use of the CPI in COLA contracts is less widespread today than 10 years ago, but clearly an upward bias is viewed unfavorably by businesses with such contracts.

The COLAs are meant to adjust only for increases in the cost of living, not the cost of living plus some extra amount which is difficult to measure. A more accurate measurement of the cost of living would be welcome, I believe, by both sides in the labor contracts. The point in wage negotiations between employers and employees is to arrive at an agreement of the appropriate compensation for performance. The negotiations should not have to include a discussion over the best measurement of the cost of living and the statistical biases in the CPI. A cost-of-living index from the BLS would be a welcome improvement over the existing CPI, given that the CPI is widely viewed as being upwardly biased.

Third, the CPI is used by the Bureau of Economic Analysis (BEA) at the Department of Commerce in the calculation of gross domestic product (GDP), or the total output of goods and services in the U.S. economy. Specifically, many of the individual CPI indexes are used to calculate real consumption expenditures. Consumption expenditures constitute about two-thirds of the total GDP. Any bias in the CPI would affect the real consumer expenditure numbers as well as total GDP. The upward bias would mean that we are currently underestimating real growth in the economy. Many of WEFA's clients are businesses which use our forecasts of the real components of GDP to forecast the volume sales of their products. For example, our furniture, television, and household appliance clients might use the consumer expenditure component, "consumer durables, household furniture and equipment," to forecast their volume sales of furniture, televisions, and appliances. Many of our clients use real GDP as a guide for future sales of some of their products since they have found that the general performance of the economy is the best guide to next year's sales. An inaccurate CPI distorts the measurement of real GDP and real consumer expenditures and makes it more difficult to get an accurate forecast of sales.

On a more technical note, the bias in the CPI presents difficulties in building models of the U.S. economy and research. Not only does it provide an inaccurate picture of changes in the cost of living, but it is not a consistent data series over time. The methodology for calculating the CPI has changed from time to time, but the BLS has not provided historical revisions of the CPI using the new methodologies. For example, the BLS recently changed the formula to calculate the CPI, so as to avoid something referred to as "formula bias." Whereas this is helpful for more accurately tracking future changes in the cost of living, the BLS did not provide a revised historical data series consistent with the new formula. This presents a problem to model builders and researchers using historical time series data. It means that we must keep track of all the methodological changes and incorporate them into our models which seek to explain CPI inflation or use the CPI to explain movements in other data series. Understanding inflation is extremely important for determining the policy of the Federal Reserve Board, so I hope you will agree that this research is important and useful. Because of this technical issue, I would recommend that the BLS provide a historically consistent data series on the cost of living, as well as an unrevised data series which is useful in legally binding contracts.

Is Inflation Overestimated?

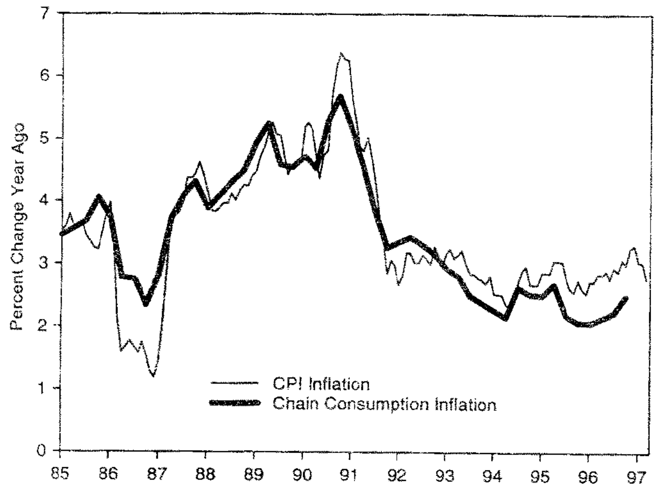
The CPI Advisory Commission concluded that the CPI overstates inflation by 1.1 percentage points each year. Of that, 0.6 percentage point was attributed to inadequate accounting for the quality improvements in products and the introduction of new products, 0.4 percentage point was attributed "substitution bias," and 0.1 percentage point was attributed to increased shopping at discount stores.

There are a number of reasons why I believe the estimate of 1.1 percentage point may be too large. **First**, quality improvements are very difficult to estimate. When car prices rise due to the addition of an airbag how much of those price increases should be reflected in the CPI? The Commission recommended accepting this type of safety enhancement to passenger vehicles as a full quality improvement. This means that the price of a car would rise by the full cost of the airbag, but the COLI for vehicles would remain unchanged. Clearly, the consumer is getting the added benefit of a safer car, but is that worth the full price of the additional part? Recent research has indicated that airbags have saved perhaps less than two thousand lives and have resulted in a few deaths. Given the latest research, is the price of airbags fully equivalent to the benefits that consumers receive from them? The average home computers today cost about the same amount as three years ago, but the newer machine is faster and runs more complicated software. Is the quality improvement 30% or 50%? There are no definitive answers to these questions. The BLS makes many adjustments to the CPI to account from improvements in quality, but the CPI Advisory Commission believes the adjustments are inadequate. The real problem with the measurement of quality improvements is that, to a certain extent, they are subjective: the benefit of a faster computer varies depending on the preferences of the individual consumers. Adjusting CPI inflation downward by 0.6 percentage point may be too much. It would be better to have the BLS arrive at a systematic way of approximating the impact of quality changes on the cost of living.

Second, the estimate of substitution bias seems high. Substitution bias stems from the fixed-weight nature of the CPI index. The index assumes that consumers purchase a fixed proportion of each good each month, even if relative prices change. However, we all know that if the price of coffee quadrupled tomorrow, less coffee and more tea would be purchased — consumers would *substitute* tea for coffee. Recently, for the new GDP data the government introduced a set of price indexes, called chained indexes, which are designed to eliminate most, if not all, of the substitution bias. Unfortunately, these chained indexes at the lowest level of aggregation are based on CPI indexes. Thus, the substitution allowed in the chain index is for relatively aggregated types of goods — the substitution of a personal computer for a used car, for example.

Figure 1

CPI Inflation vs. Chained Consumption Index, 1985 to 1996



From the ten years ending in 1996, the chained consumption index — which is relatively free of substitution bias — averaged 3.5%. During the same period, the CPI index averaged 3.6%. Some of the recent divergence of the two inflation rates is caused by the medical services component, which is growing very slowly in the chained index due to factors unrelated to substitution bias.

As **Figure 1** shows, there is not a lot of difference between CPI inflation and the chained consumption index measurement of inflation. The chained index adjusts for substitution bias by varying the consumer goods weights each year according to the quantity of the goods purchased. Over the ten years ending in 1996, both of the indexes averaged about 3.6% inflation, indicating that substitution bias is not much of a problem in the CPI, at least at the level of aggregation implied by the chained consumer expenditure indexes. Sometimes the CPI index is substantially below the chain index. This occurred when oil prices fell in the mid-1980s. In this case, the fixed-weight CPI index had an outdated, larger weight for gasoline consumption and it exaggerated the benefits to consumers.

More recently, the CPI has been higher than the chain index because of lower medical services and lower durable goods inflation in the chain index. The lower medical services inflation in the chain index is the result of cost-cutting measures at companies that are keeping down the costs of employees' health insurance. Employer health insurance costs have a large weight in the chain index, but not in the CPI, which measures services that can be purchased directly by consumers, such as an individual health insurance plan. The durable goods inflation is lower due to substitution, for example, of personal computers for furniture.

To greatly reduce the problem of substitution bias it will be necessary to have more frequent Consumer Expenditure Surveys (CES). These surveys provide the information necessary for adjusting the expenditure weights used in a cost-of-living index. The more frequently the CES is conducted, the more accurately the weights will reflect current consumer behavior.

Third, the commission believes the CPI fails to account for greater patronage of discount stores by consumers. If, each year, a higher and higher percentage of shoppers buy more goods from discount stores, then the CPI inflation rate would be biased upwards. Though the BLS does regularly adjust its survey to reflect where consumers shop, the mix of stores surveyed tends to change more slowly than consumer behavior. Hence, it fails to capture the benefit of lower prices at discount retail outlets. Clearly, this bias can only go on as long as there are people *not* shopping at discount stores. So this problem with the CPI is more likely to provide only a temporary upward bias to the CPI inflation rate. In any case, it is a small bias and could easily be eliminated by providing more funds to the BLS to expand their survey of stores and update the ones in the index more frequently.

Finally, there is some counterfactual evidence which indicates that the estimate of bias of 1.1 percentage points seems high. **First**, surveys of consumers indicate that they believe inflation is closer to 3% — not 2% as the CPI Advisory Commission report would imply.[1] **Second**, if inflation is lower than the CPI indicates, the real income growth is higher by the amount of the bias in the CPI. This would mean that real per capita income rose by about 2.3% per year for the five years ending in 1996. Yet, my sense in talking to clients is that real per capita income is rising very slowly. **Third**, if the CPI is overestimated by 1.1 percentage points, then real GDP growth is approximately 0.7 percentage point too low, since consumer spending is two-thirds of GDP and real consumer expenditures are calculated using the CPI. The extra real GDP growth would mean that in the last recession in 1991, real GDP fell by 0.3%. Yet industrial production, which is not subject to the CPI bias, fell 2.0%, while total payroll employment fell by 1.1% in 1991 (see **Figure 2 and Table 1**). Real retail sales fell 2.5% — so even with an adjustment upwards of 1.1 percentage points, real retail sales would have fallen 1.4%. These declines in economic indicators — some of which are totally unrelated to the problem of measuring consumer prices — suggest that real GDP declined by something closer to 1% in 1991.

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[1] "Preliminary results from the April 1997 survey", Richard Curtin, Surveys of Consumers, University of Michigan.

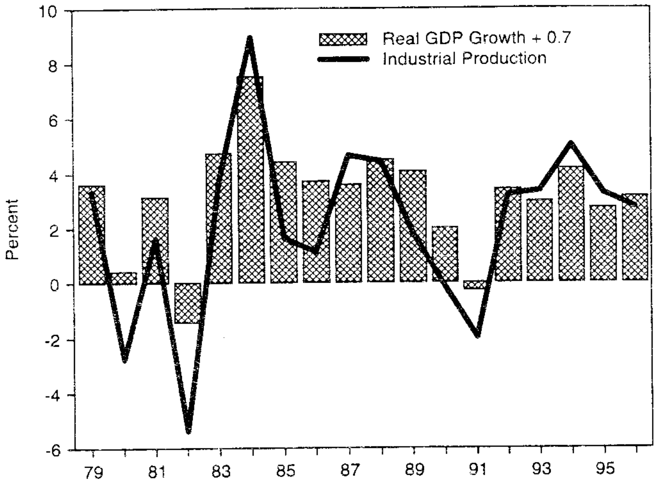
TABLE 1: GROWTH IN ECONOMIC INDICATORS, 1978 TO 1996

	REAL GDP (%) (A)	REAL GDP PLUS 0.7 (%) (A+0.7) (B)	INDUST. PRODUCT. (%) (C)	PAYROLL EMPLOY. (%) (D)	REAL RETAIL SALES (%) (E)	REAL RETAIL SALES (%) (E+1.1) (F)
1979	2.9	3.6	3.3	3.6	1.7	2.8
1980	-0.3	0.4	-2.8	0.7	-3.6	-2.5
1981	2.5	3.2	1.6	0.8	0.4	1.5
1982	-2.1	-1.4	-5.4	-1.8	-1.0	0.1
1983	4.0	4.7	3.7	0.7	7.5	8.6
1984	6.8	7.5	8.9	4.7	7.1	8.2
1985	3.7	4.4	1.6	3.2	4.4	5.5
1986	3.0	3.7	1.1	2.0	5.6	6.7
1987	2.9	3.6	4.6	2.6	2.8	3.9
1988	3.8	4.5	4.4	3.2	4.1	5.2
1989	3.4	4.1	1.8	2.6	2.2	3.3
1990	1.3	2.0	-0.2	1.4	0.6	1.7
1991	-1.0	-0.3	-2.0	-1.1	-2.5	-1.4
1992	2.7	3.4	3.2	0.3	3.2	4.3
1993	2.3	3.0	3.4	2.0	4.5	5.6
1994	3.5	4.2	5.0	3.1	6.0	7.1
1995	2.0	2.7	3.3	2.7	3.2	4.3
1996	2.4	3.1	2.8	2.0	3.9	5.0

The CPI Advisory Commission stated that the upward bias to the CPI "creates in the federal budget an annual automatic real increase in indexed benefits and a real tax cut." This would imply that the personal income taxes would be falling relative to personal income (adjusted for transfer payments and contributions to social insurance). Yet, in 1984 the effective tax rate was 10.7%, while in 1992 it was 10.5%. I chose these two years because 1984 was after the full implementation of indexing of tax brackets and the 1980-82 recession and 1992 was prior to the latest personal income tax increase and after the 1991 recession. Likewise, Social Security benefits have not risen in recent years relative to income growth. In 1983, Social Security benefits averaged about 6.4% of personal income. By 1996, this share of income had fallen to 6.2%. During this same period, the percent of the population over 65 years-old rose from 11.0% to 12.0% (see Figure 3). There are many things that could explain why personal income taxes are not consistently falling relative to income and many reasons why Social Security benefits are not rising relative to personal income. That is not my point. I simply would like to indicate that the nominal, or current dollar, data (which is independent of the CPI data) do not strongly substantiate the view of the CPI Advisory Commission that the consumer price index overestimates changes in the cost of living by a wide margin.

Figure 2

Real GDP Growth + 0.7 Adjustment and Industrial Production, 1979 to 1996



Since industrial production represents about 25% of the economy, virtually all of the decline in real GDP — once it is adjusted to what is implied by the CPI Advisory Commission — would be explained by manufacturing, mining and utilities. However, other segments of the economy also experienced declines.

In short, there is reason to believe that the estimate of a 1.1 percentage point upward bias to CPI inflation may be an exaggeration. A recent survey of the literature expressed skepticism about the magnitude of the CPI bias and noted that since 1975 "there has been very little new research on the problems of price measurement."[2] A sensible way to deal with the problem would be to fund the research for improving the measurement of inflation and then implement changes to the BLS's methodology, rather than adopting a specific rule such as the change in CPI minus 1.1 as a cost-of-living adjustment.

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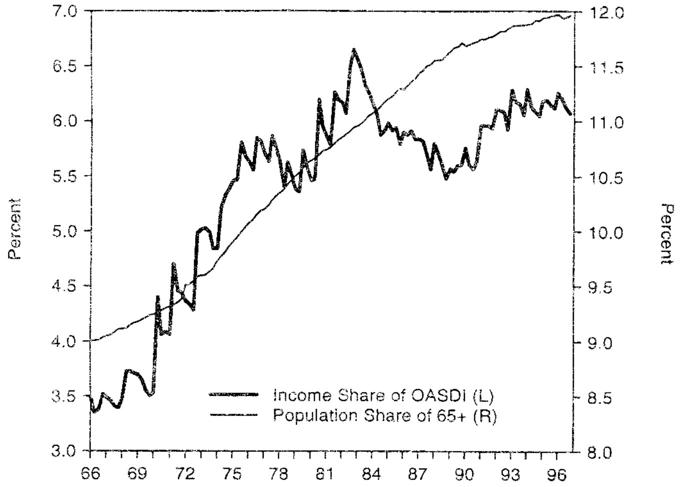
[2] "A Survey of Measurement Biases in Price Indexes," Mark A. Wynne and Fiona D. Sigalla, Journal of Economic Surveys, Vol. 10, No. 1, 1996.

Figure 3
Social Security Payments as a % of Personal Income, 1966 to 1996



In this figure personal income is adjusted to exclude transfer payments income and include contribution to social insurance.

The CPI and the Budget

Movements in the CPI affect federal tax collections and entitlement expenditures. In 1975, Congress decided to link Social Security payments to the CPI. In 1981, Congress decided to link personal tax collections to the CPI, by indexing tax brackets and the standard deduction. I believe that in both cases the intention was to compensate Social Security recipients and taxpayers for cost-of-living increases. It now appears the CPI is biased upwards and Social Security recipients and taxpayers may be receiving an adjustment that more than compensates for the rise in the cost of living.

Though this means that federal expenditures and revenues are affected by the bias in the CPI, I believe these are two separate issues and should be treated as such. I believe that a more accurate cost-of-living index should be produced and maintained by the BLS, even if the CPI were not used in adjusting tax brackets and benefits. Businesses use the CPI in cost-of-living adjustments and we should have a more accurate measurement of changes in our standard of living. Congress has many ways to raise taxes and cut expenditures. One way is by reducing or eliminating the CPI adjustment permanently or for a short period of time. This should have nothing to do with making improvements to the CPI — those improvements should be done in any case.

Conclusions

The BLS should be provided funds to construct and maintain a CPI index which more closely tracks the actual cost-of-living experience by the average American. There should be two cost-of-living indexes. The first would never be revised and would be provided on a very timely basis, just as the CPI is now. It is very useful for business contracts to have an accurate COLI which remains unrevised and is published promptly. The second index would be subject to extensive revision depending on the outcome of the latest research on quality adjustments and substitution behavior of consumers. This second index would provide historically consistent data on changes in the cost of living. This is very useful to model builders, such as WEFA, and to researchers in business and academia who need the most accurate calculation of the cost of living over time. I agree with the view that changes in the CPI provide an upwardly biased estimate of increases in the cost of living. I am skeptical that the bias is as much as 1.1 percentage points. Data which is independent of the measurement of price increases tends to indicate that the bias is closer to 0.2 to 0.5 percentage points. In any case, the evidence on the precise amount of bias is inconclusive — further research needs to be done and this should be conducted by the BLS in consultation with statisticians and academics outside of the government.

Finally, I believe that the BLS should be providing a more accurate cost-of-living index, even if it had no impact on the federal budget. Businesses and academia rely on the government for accurate and timely data on the U.S. economy. It is used in contractual arrangements, strategic planning decisions, and research. I believe this issue should remain separate from the budget issue. The data issue deals with providing information on the state of the U.S. economy. The budget issue has to do with raising revenue and spending it — there are many, many ways to do this other than by using the CPI as a tool for increasing or decreasing taxes and expenditures.

APPENDIX

DATA SOURCES

FIGURE 1:

SERIES PCIU.M 15 APR 97
MONTHLY Data for 603 periods from JAN 1947 to MAR 1997
CONSUMER PRICE INDEX
All Urban Consumers
Special Indexes
All Items
UNITS 1982/84=100 SA
SOURCE: BLS, Consumer Price Index

SERIES PDCCE 28 MAR 97
QUARTERLY Data for 150 periods from 1959Q3 to 1996Q4
QUANTITY AND PRICE INDEXES
Personal consumption expenditures: Chain type price index
UNITS 1992=100 SAAR
SOURCE: BEA, NIPA tables

FIGURE 2:

SERIES GDP92 4 APR 97
QUARTERLY Data for 174 periods from 1959Q3 to 2002Q4
GROSS DOMESTIC PRODUCT
BILLIONS OF CHAINED 1992 DOLLARS SAAR
SOURCE: BEA, NIPA, 1.2

SERIES JIP.M 16 APR 97
MONTHLY Data for 939 periods from JAN 1919 to MAR 1997
INDUSTRIAL OUTPUT
INDUSTRIAL PRODUCTION INDEX
TOTAL INDEX
UNITS 1992=100 SA
SOURCE: FRB, INDUSTRIAL PRODUCTION, G.17

FIGURE 3:

SERIES NP65A 4 APR 97
QUARTERLY Data for 220 periods from 1948Q1 to 2002Q4
POPULATION, NONINSTITUTIONALIZED CIVILIAN, TOTAL, 65 & OVER
MILLIONS OF PERSONS NSA
SOURCE: BLS, EMPLOYMENT & EARNINGS, WEFA TRANS

SERIES NP 4 APR 97
QUARTERLY Data for 172 periods from 1960Q1 to 2002Q4

POPULATION, TOTAL
MILLIONS OF PERSONS NSA
SOURCE: BEA, NIPA, 2.1

SERIES SHARESSP 25 APR 97
QUARTERLY Data for 124 periods from 1966Q1 to 1996Q4
SOCIAL SECURITY PAYMENT AS A SHARE OF PERSONAL INCOME
FORMULA: trpgfoasdi/(yp-trp+txsp)
RATIO
SOURCE: WEFA Transformation

SERIES TRPGFOASDI 4 APR 97
QUARTERLY Data for 148 periods from 1966Q1 to 2002Q4
TRANSFER PAYMENTS, TO PERSONS, FROM GOVT, FEDERAL, OASDI
BILLIONS OF CURRENT DOLLARS SAAR
SOURCE: BEA, NIPA, 3.11

SERIES YP 4 APR 97
QUARTERLY Data for 176 periods from 1959Q1 to 2002Q4
PERSONAL INCOME
BILLIONS OF CURRENT DOLLARS SAAR
SOURCE: BEA, NIPA, 1.9

SERIES TRP 4 APR 97
QUARTERLY Data for 176 periods from 1959Q1 to 2002Q4
TRANSFER PAYMENTS, TO PERSONS, TOTAL
BILLIONS OF CURRENT DOLLARS SAAR
SOURCE: BEA, NIPA, 2.1

SERIES TXSP 4 APR 97
QUARTERLY Data for 176 periods from 1959Q1 to 2002Q4
GOVT RECEIPTS, CONTRIBUTIONS FOR SOCIAL INSURANCE, PERSONS
BILLIONS OF CURRENT DOLLARS SAAR
SOURCE: BEA, NIPA, 2.1

Mr. SNOWBARGER. Thank you, Dr. Karl.

Mr. Baker.

Mr. BAKER. Thank you.

I will take advantage of the invitation to address some of the earlier comments, but I do want to at least summarize some of the key points in my written statement.

The invitation to testify here called on me to make assessments of how BLS could more quickly implement changes to improve the accuracy of the index. And I think that stems from a faulty assumption that the index currently is highly inaccurate. I would just present, quickly, three reasons why I would take issue with that. First, I would say that the vast majority of economists treat it as being accurate in their own research. Second, there is a whole range of implications, and what I mean here are logical implications, necessary implications, of a highly inaccurate CPI, which would lead to at least implausible, if not impossible, results in other areas of economics. And third, I would point out that, to my knowledge, there has not been a political figure in the country that has yet embraced the implications of a significantly overstated CPI.

Let me just say a little bit more about each of those. The first point, the CPI or related indices gets into just about everything we do in economics.

I have actually run through the journals—in fact, I had a research assistant of mine go through the written publications of the members of the Boskin Commission, and we found, in 37 articles where it would have been relevant, in only 6 of them did the members of the commission themselves even raise the possibility that the CPI significantly overstated inflation. In only one of those six, an article authored just last year, did they even bother to correct for it.

So I think you would find, virtually across the board, that when economists do their research, they consider the CPI an accurate measure. I just would like to point out, economists like to say, we're a discipline that looks at what people do, not what they say. And what economists do is, they use the CPI as though it's an accurate measure.

The second point I would make is, we're saying two plus two equals five. If the CPI is wrong, that affects just about everything we do in economics. It affects our measures of rates of growth. It affects our measures of relative prices, relative demand. Just about everything we've done over the last 40 years would have to be reexamined.

In my written testimony, I gave you one example. If you look at deregulation—I took some numbers from Robert Crandall at Brookings, probably the leading authority on the impact of deregulation—I showed that, if you took his numbers as he has calculated them, assuming the CPI is correct, we find that deregulation of airfares led to a gain to consumers of around 35 percent.

If we assume the Boskin Commission's conclusion was correct and apply it backward, that gain falls to about 15 percent, which may be entirely offset by deteriorations in quality over this period, meaning that the gains from deregulation might well have been zero or even negative.

That could be replicated with other areas of regulation, just about every other area of economics. My point here is, it leads to lots of things that many of us would find at least implausible, if not impossible, a very different view of the world.

The last point, about how we view the political situation, public policy, if it's the case the CPI is overstating inflation—let's take the estimate of 1.1 percent—it logically implies real wages, real incomes are growing 1.1 percent more rapidly than we had thought. Going backward—I've done this in some of my work—you carry it backward, we would find out that most people who are now on Social Security, in their 70's, by that implication, were living in poverty as recently as 1960.

Let's carry it forward. It turns out that, you know, our children and our grandchildren, who, of course, we are all worried about, they are going to be very, very wealthy. We probably don't have to worry about them very much, because their incomes are growing 1.1 percent a year, more rapidly than we had thought. Come 2020, 2030, the dates we often look at, they are going to be quite rich.

So these are implications that I have yet to see embraced by political figures, including many of the people who claim the CPI is substantially overstated.

Now, let me just very quickly address some of the things that have been raised before. The concept of an elderly index, I know Representative Sanders raised it; other people have talked about it. I think there is a big issue here. Even the commission acknowledged that we need more research in this area. I think Congress would do well to consider appropriating the money that would be needed to start a full elderly index so we could have an answer to this question, at least if there is an interest in knowing how rapidly do costs rise for the elderly.

The second point I would like to make, a lot of the examples where BLS, we could recognize, made a mistake, the cellular phone example that we all know well, these are often goods that are used, at least initially, disproportionately by high-income individuals. The implication of that is that we might have overstated their rate of inflation; we did not overstate the rate of inflation of the vast majority of the population that still does not have cellular phones.

This raises a question about how you construct the CPI. Right now, it's an expenditure-weighted index. If I spend $1 million a year, then my expenditures count 100 times as much as the elderly person who spends $10,000 a year. We could, instead, have it constructed as a person-weighted index. I would suggest that that's something we may want to consider.

Just to make a couple more points quickly, I often talk about the rate of inflation. I'm very hesitant to talk about the cost of living, for the simple reason that, if we really want to evaluate the cost of living, we have to count all the factors that affect the cost of living, such as things like crime, pollution. I'm drinking water here. It's probably not tap water, if this is DC. These are things that are very hard to take account of.

Economists have very little ability, I think, to really take account of that, and I would urge we be a little more humble. That's why I think it's more appropriate for us to say, we're looking at a price index. We could look at producing a better price index. I don't think we really have the ability to produce a true cost-of-living index. I think it's really just too complicated, on its face.

I will stop there.

[The prepared statement of Mr. Baker follows:]

Statement by Dean Baker
Economist, Economic Policy Institute

I am very pleased to have the opportunity to address this committee about the performance of the Bureau of Labor Statistics (BLS) in maintaining the accuracy of the consumer price index (CPI). I have been a close follower of, and participant in, the debate that has taken place in the last two and a half years over the accuracy of the CPI. I feel that the BLS has been the target of much unjustified criticism throughout this period. Therefore I welcome this chance to set the record straight.

The task of maintaining an accurate consumer price index is inherently extremely complex. The budgetary constraints that BLS has operated under make it even more difficult. The fact that the construction of the CPI has now been placed at the center of the political debate over the budget threatens to make this task impossible. When this period is viewed in retrospect, I believe that people will recognize that the BLS in general, and its Commissioner, Katharine Abraham in particular, have conducted themselves in an exemplary manner. They have continued the ongoing research process at BLS and implemented improvements suggested by the research they and others have carried out. At the same time, they have resisted political pressure to make changes that were not clearly warranted by existing research. The nation has been extremely well served by the agency's insistence on maintaining the integrity of its statistics.

Before discussing the possible sources of inaccuracy in the CPI, and the potential remedies, I would like to try to dispel the belief that the index contains a significant overstatement of the true rate of inflation. This view has become widespread as a result of the report of the Senate Finance Committee's Advisory Commission to Study the Consumer Price Index and the widely repeated statements that various economists have made on this issue. However, repetition does not make truth. I will make three points about the alleged overstatement in the CPI:

1) Virtually no economists view the CPI as overstated when they carry out their research,

2) A significant overstatement in the CPI alters our understanding of the economy in a way that is at least implausible, if not impossible, and

3) Virtually no political figures have embraced the altered picture of the future that is logically implied by an overstated CPI.

On the first point, there has been a considerable effort to promote the notion that all economists agree that the CPI significantly overstates inflation. This has involved rounding up statements from various prominent economists and even some crude efforts at opinion polling. Economists are fond of saying that economics is a discipline where we look at what people *do*, not what they say. I have looked at what economists do with the CPI and related price and output indices in their own research. One can search through volume after volume of the leading journals in the discipline and not find a single article where there was even a question raised about the accuracy of the CPI or other related indices when economists applied them in their own research. Even the members of the Senate Finance Committee's Advisory Commission rarely noted any problem. We examined 37 articles written by members of the Commission where it was necessary to use the CPI or a related index. In only six of these articles did the members of the Commission even note the possibility of a problem with the CPI. And in only one of these six (an article written in 1996) did they make an effort to adjust for this problem. In other words, with almost no exceptions, economists view the CPI as sufficiently accurate to use in their own research.

On the second point, if the CPI has been significantly overstating inflation, then it logically implies that the economy has performed very differently than economists had thought. The CPI is used either directly or indirectly in constructing a very large portion of economic statistics. If the CPI is wrong, then these other statistics are wrong, and so are the economic theories that depend on them. There is a long set of logical implications of a significant CPI overstatement that are at the least implausible. For example, if the Senate Advisory Commission's conclusion is correct, then the typical American was living below the current poverty level as recently as 1960. The real value of the dollar against foreign currencies has fallen by nearly 40 percent since 1974. The benefits that economists had thought consumers received from deregulating industries like air travel, trucking, and telecommunications would largely vanish (see figure 1). The list of implausible implications can be extended at considerable length. The point is that few, if any, economists have been prepared to embrace the implications that would logically follow from accepting the Advisory Commission's claim about the CPI overstatement. To do so would require jettisoning a very large portion of the economic research carried through over the last forty years. If the CPI truly overstates inflation then this conclusion must be applied everywhere. Unless economists are prepared to take this step, they have not accepted the Advisory Commission's claim.

Finally, there are implications for economic policy that logically follow from the Advisory Commission's claim. The most obvious, and important, is that people are getting wealthier much more rapidly than had been recognized. Specifically, real incomes are rising exactly 1.1 percent a year more rapidly than our current data indicate. This means that people will be much wealthier in the mid and long-term future than we thought. According to the Social Security Administration, the current average annual wage is approximately $25,000. It is projected to rise to about $38,000 (in today's dollars) by the year 2030 (see figure 2). According to the Congressional Budget Office, if we balance the budget, and keep it balanced for the next 30 years, it will raise the growth rate somewhat, adding approximately $800 to the average annual wage by the year 2030. However, if we adjusted for the overstatement in the CPI claimed by the Advisory Commission, our projections would show that the average annual wage in 2030 will be nearly $56,000, more than twice their current level. By 2050, the average annual wage will be over $80,000 (all numbers are in today's dollars). In other words, if the Advisory Commission is correct, our children and grandchildren are going to be far richer than we could have possibly imagined.

I have yet to hear any prominent political figure embrace this view. If the Advisory Commission is correct, the future we are facing is so bright that the current concerns over the burden that the deficit will impose seem altogether nonsensical. Our children and grandchildren will be far richer than we are at present, and enormously rich compared to our parents and grandparents receiving Social Security, who lived much of their lives below the current poverty level.

It is possible to have different assessments of the accuracy of the CPI. However, it is not possible to accept the claim that the CPI significantly overstates inflation without also accepting the logical implication of this view that the future is incredibly bright.

For the reasons just noted, and others, I don't believe that the CPI contains large sources of bias. Therefore I think the gains in accuracy from improving the index are relatively limited. However, there clearly are ways in which the index can be improved, many of which the BLS is already pursuing. I'll briefly discuss the treatment of geometric means as an example of how BLS has effectively worked to improve the index, and then give suggestions for further improvements that would necessitate additional funding from Congress.

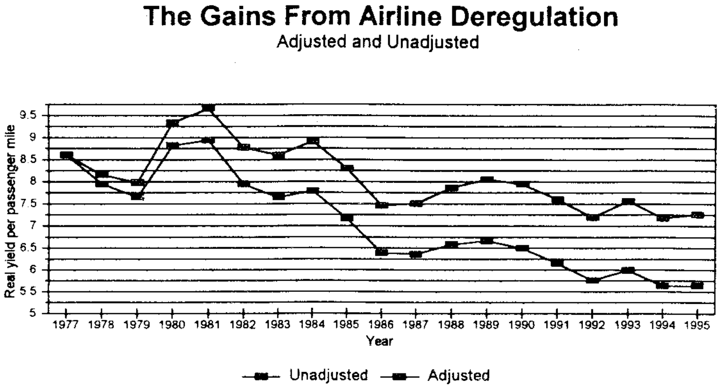
The use of geometric means involves technical and conceptual questions on the construction of indexes. Since its inception, the CPI has followed the prices of a fixed market basket of goods and services at both the highest and lowest levels of aggregation. While there are reasons for pursuing this approach, it clearly ignores the savings that consumers might experience from switching from items that increase rapidly in price to items that increase less rapidly. At higher levels of aggregation (broad categories like beef, chicken, apples and oranges), it is possible to pick up the impact of this substitution when consumption data becomes available, usually about nine months after the year is over. BLS has produced series measuring this effect for several years.

However, substitution also takes place at lower levels, between types of steak or types of apples. BLS does not have data at this low a level of aggregation, so it is not possible to directly measure the impact of this type of substitution. The alternative that BLS is currently exploring is the use of geometric means to calculate inflation rates at the lower level of aggregation. This method effectively assumes a particular pattern of substitution between types of goods in each category. Recently BLS announced that it would publish an experimental index that would show the impact of using geometric means, instead of the current method. This will enable outside researchers and policy analysts to gain an understanding of how the geometric mean approach differs from the current method. After having a chance to examine the impact of the geometric mean approach, and get feedback from outside researchers, BLS has indicated that it will apply geometric means in categories of the CPI where the implied substitutions seem plausible.

I believe that BLS has pursued exactly the right course on this issue. First, it should be noted that the vast majority of current research on the use of geometric means has been done by BLS. Also, this research was initiated long before the accuracy of the CPI became a major public issue. Second, it is well known that the use of geometric means across the whole index will lower the measured rate of inflation by between 0.2 and 0.3 percentage points annually. For this reason, there has been considerable pressure to adopt the geometric mean approach. BLS Commissioner Katharine Abraham has correctly resisted this pressure. She has insisted that the impact should be more fully understood, and that implied substitutions be plausible, before adopting geometric means. Adopting geometric means throughout the index would imply that people substitute cancer treatment for heart surgery when its relative price falls, or that consumers switch from clothes washers to clothes dryers in response to changing relative prices. Such behavior is clearly not plausible. Assuming that these substitutions occur would therefore understate the true rate of inflation. Over the next several years, BLS will adopt the geometric mean approach in areas of the index where the research indicates it is appropriate. This is exactly the procedure we should want our statistical agencies to follow.

Lastly, I will make a suggestion for improving the CPI. There has been considerable attention to the question of whether all demographic groups face the same rate of inflation. For example, the experimental elderly index assembled by BLS suggests that the elderly experience a somewhat higher rate of inflation than the population as a whole. At present we lack the research to answer this question with any confidence. Even the Advisory Commission noted the need for more research on this issue. BLS could provide a more conclusive answer to this question if it carried through a point of purchase survey specifically for the elderly population.. I have no particular insight into what the results of this experiment would be. The measured rate of inflation could move in either direction, or the difference may be so slight as to not warrant continuation of the separate survey. Carrying out this survey would be a significant expense, but if Congress is interested in finding an accurate measure of the rate of inflation experienced by the elderly, it would be money well spent.

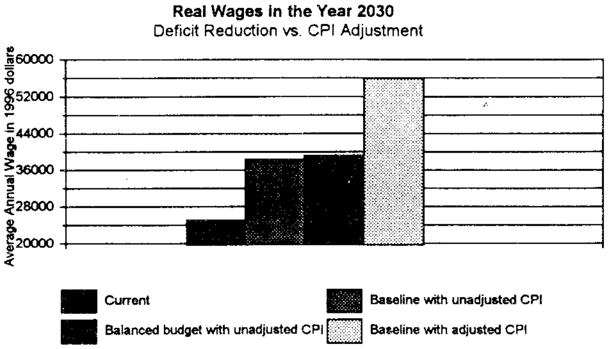
Figure 1



This chart compares estimates of real airline fares in the period since airline deregulation using the current CPI and a Boskin Commission adjusted CPI. The measure using the current CPI shows a real decline in airfares of more than 30 percent, indicating substantial gains from airline deregulation. The fare decline using the Commission adjusted CPI is only about 15 percent. A gain of this magnitude could easily be offset by more restrictive ticketing practices or other declines in service quality that have accompanied airline deregulation. In this case, and in many others, economists' assessments of the impact of economic policies will have to be re-examined, if the Commission's conclusions are accepted.

Source: R. Crandall and J. Ellig, *Economic Deregulation and Customer Choice: Lessons for the Electric Industry*. Center for Market Processes, Fairfax, VA. 1996, and author's calculations.

Figure 2



This chart compares the impact on projections of future living standards of balancing the budget with the impact of adjusting projections of real wage growth in accordance with the Boskin Commission's conclusion. The chart indicates that the average annual wage is projected to rise from about $25,000 at present to about $38,400 by 2030 (in today's dollars) if the government continues to run significant deficits over this period. If the government balances the budget throughout this period, the Congressional Budget Office projects that wages will increase slightly more, to $39,120 by 2030 (also in today's dollars). However, if the baseline projections are adjusted in accordance with the Boskin Commission's conclusion, then the average wage will be nearly $56,000 by 2030 (in today's dollars). This shows that the impact of the Boskin Commission's conclusions on projections of future living standards dwarfs any gains that could be accomplished by deficit reduction or almost any other policy imaginable. If the Commission is correct, then the future looks far brighter than our current projections indicated was ever possible.

Source: CBO, Social Security Trustees Report, and author's calculations.

Mr. SNOWBARGER. Mr. Shapiro.

Mr. SHAPIRO. Thank you for the invitation to testify this morning.

The role of the CPI for indexing taxes and expenditures, as an indicator for monetary policy, and for a source of other economic statistics, gives rise to the great public concern about its accuracy. In this context, it is worth noting that the CPI is one of the best-executed statistical programs in the United States.

BLS personnel have been at the forefront of the effort to identify and quantify problems that make the CPI a less than ideal measure of the cost of living. Moreover, their research has led to a number of improvements over the years. I hope that this testimony will assist you in your oversight of the BLS, as it continues its efforts to improve the CPI.

Let me begin by recommending two specific steps, relating to issues that have already been discussed this morning, that the BLS should take in the near term to improve the accuracy of the CPI as a measure of the cost of living.

First, the CPI neglects that consumers economize by changing their buying patterns when prices change. The BLS should eliminate the so-called “high-level substitution bias” by changing the formula used to aggregate prices across goods and services.

Second, the BLS uses a procedure in building up its elementary price indexes that causes the index to have an upward bias. A change in the way the BLS averages prices, moving to geometric means, would greatly reduce or eliminate this bias.

By taking these two steps, the BLS could reduce the CPI’s overstatement of the change in the cost of living by about one-half percentage point per year, on average. These two steps are the low-hanging fruit of CPI biases.

The economics and statistical principles underlying them are well understood, and the data required to implement them are already available. Hence, significant progress can be made in the near term to improve the accuracy of the CPI, without substantial delay, and without substantial incremental resources.

The timetable that Commissioner Abraham outlined for incorporating geometric means into the official index represents a reasonably rapid translation of research into practice. The BLS should act with similar dispatch in addressing the high-level substitution bias.

Let me explain how they might do that in a feasible way. The formula that the BLS currently uses assumes consumers do not adjust their purchases of goods and services when prices change. To account for the fact that consumers do, indeed, economize, the BLS should use a so-called “superlative index” formula.

A superlative index combines data on expenditure with data on price change to produce an index that is free of this high-level bias. The data on expenditures required to construct a superlative index are available with a lag of about a year, and this creates a practical difficulty in producing an index.

Research that I have undertaken with David Wilcox shows how to produce a very good approximation to this superlative index, with the same timeliness of the CPI. Our method estimates the required expenditure data from observed price changes. This technique can eliminate the high-level substitution bias, without compromising the timeliness or accuracy of the Consumer Price Index.

If a superlative index is, indeed, the best way to construct a price index, you might well wonder why the BLS already does not use it. Decades ago, when the CPI program began, the desirable properties of superlative indexes were not fully understood. Moreover, the necessary expenditure data, which are now collected quarterly, were only collected, roughly, every 10 years. Given this progress, both in methodology and data collection, the BLS is now in a position to move forward rapidly.

The issues I have been discussing concern how the BLS should aggregate prices across goods and services. The other problem, which we have already discussed today, is how it should average prices at the lower level, how it should average lettuce of different types. And I would endorse the BLS's plans to move ahead rapidly to use the geometric formula. This change should take about a quarter percentage point off annual growth of the index, when it is introduced.

These technical changes addressing the high-level bias, which the BLS is not yet planning to do, and the low-level bias, which they have in the works, are things the BLS can do in the short run that would have a measurable effect on inflation within the next couple years.

The longer term challenge is much more difficult. Measuring prices in a dynamic economy is inherently problematic. New goods replace old ones. Changes in outlets occur, where consumers buy their goods and services. The quality of goods changes continually. All of these changes make it difficult to compare the price of goods and services across time. No simple change in the formula will make these comparisons any easier.

To address the issue of new and improving goods and services, there is no substitute for investigating them item by item. The BLS should plan to review groups of items in the CPI on a rotating basis, to study how best to take into account the quality change. A one-time review could address the current backlog of problems, but it would not anticipate future changes in the marketplace. So this review, therefore, needs to be an ongoing part of the CPI program.

Thank you.

[The prepared statement of Mr. Shapiro follows:]

April 30, 1997

Statement before the

U.S. House of Representatives
Committee on Government Reform and Oversight
Subcommittee on Human Resources

Hearing on the Bureau of Labor Statistics' Calculation of the Consumer Price Index

by

Matthew D. Shapiro
Professor of Economics
University of Michigan

Thank you for the opportunity to testify concerning the Bureau of Labor Statistics calculation of the Consumer Price Index. The role of the CPI for indexing taxes and expenditures, as an indicator for monetary policy, and as a source for other economic statistics gives rise to great public concern about its accuracy. In this context, it is worth noting that the CPI is one of the best executed statistical programs in the United States. BLS personnel have been at the forefront of the effort to identify and quantify problems that make the CPI a less than ideal measure of the cost of living. Moreover, their research has led to a number of improvements in the index over the years. I hope that the testimony today will assist you in your oversight of the BLS as it continues its efforts to improve the CPI.

Let me begin by recommending two specific steps that the BLS should take in the near term to improve the accuracy of the CPI as a measure of the cost of living.

- First, the CPI neglects that consumers economize by changing their buying patterns when prices change. The BLS should eliminate this so-called high level substitution bias by changing the formula used to aggregate prices across goods and services.

- Second, the BLS uses a procedure in building up its elementary price indexes that causes these indexes to have an upward bias. A change in the way that the BLS averages individual price observations could reduce or eliminate this bias.

By taking these two steps, the BLS could reduce the CPI's overstatement of the change in the cost of living by about 1/2 percentage point per year on average. These two steps are the low-hanging fruit of CPI biases:

- The economic and statistical principals underlying them are well-understood.

- The data required to implement them are readily available.

Hence, significant progress can be made in the near term to improve the accuracy of the CPI without substantial delay and without substantial incremental resources.

The formula the BLS currently uses assumes that consumers do not adjust their purchases of goods and services when prices change. To account for the fact that consumers do indeed economize, the BLS should use a so-called superlative index formula. A superlative index combines data on expenditure with data on price change to produce an index that is free of the high-level substitution bias.

The data on expenditures required to construct a superlative index are available only with a lag of about a year. Research that I have undertaken with David Wilcox shows how to produce a very good approximation of a superlative index with the same timeliness as the CPI. Our method estimates the required expenditure data from observed price changes. This technique can eliminate the high-level substitution bias without compromising the timeliness or the accuracy of the CPI. [See Appendix.]

If a superlative index is indeed the best way to compute a price index, one might well ask why the BLS does not already use it. Decades ago, when the CPI program began, the desirable properties of superlative indexes were not fully understood. Moreover, the necessary expenditure data, which are now collected quarterly, were only collected roughly every ten years. Given this progress in methodology and data collection, the BLS is now in a position to implement the superlative formula.

The issue I have just been discussing concerns how the BLS should aggregate price observations across goods and services. Another problem arises when the BLS produces the over 200 elementary price indexes from which it builds the CPI. To calculate price changes, the BLS needs to average price growth across a sample of outlets. The BLS currently uses the simple, arithmetic mean to calculate the average. The arithmetic mean overstates the rate of price change by giving too much weight to items whose prices are increasing faster than average. The geometric mean, which averages price changes by multiplying them together rather than by adding them up, does not have this problem.

This month, the BLS started producing an experimental CPI using these geometric means. This index grows 0.3 percentage point slower than the CPI. Study is needed to assess the performance of the geometric means indexes, particularly where the BLS averages across goods that are highly heterogenous. Nonetheless, geometric means should become the benchmark for producing elementary price indexes. The BLS should use geometric means except in cases where there is specific evidence that they are inaccurate.

These technical changes in the way the BLS computes the CPI could increase the accuracy of the CPI in the near term. The long-term challenge for the BLS is more difficult. Measuring prices in a dynamic economy is inherently problematic. New goods replace old ones; changes in the marketplace provide new outlets for making purchases; the quality of goods and services changes continually. All of these changes make it difficult to compare the price of goods and services across time.

No simple change in the formula will make these comparisons any easier. To address the issue of new and improving goods and services, there is no substitute for examining them item by item. This is the house-to-house combat of index number construction. The BLS should plan to review groups of items in the CPI on a rotating basis to study how best to take into account quality change. A one-time review could address the current backlog of problems, but could not anticipate future changes. This review therefore needs to be an ongoing part of the CPI program.

Appendix

Constructing an Approximate Superlative Price Index in Real Time

This appendix is based on Matthew D. Shapiro and David W. Wilcox, "Alternative Strategies for Aggregating Prices in the CPI," Federal Reserve Bank of St. Louis Review (forthcoming). See that paper for details of these calculations.

A "superlative" price index uses information on expenditures to account for how consumers economize on the cost of living when prices of goods and services change relative to each other. Consequently, a superlative index does not have the high-level substitution bias that arises in the CPI. A Törnqvist index is one commonly-used superlative price index.

Owing to delays in the availability of the required expenditure data, a superlative index cannot be computed with the same timeliness that is possible with the current CPI. This appendix suggests a procedure for approximating a superlative price index with the same timeliness of the CPI. The method is as follows:

1. Take the most recently available annual expenditure shares as a point of departure.
2. Update these shares based on the observed price changes by assuming a constant elasticity of substitution (CES) demand system.
3. Calculate a price index using these updated expenditure shares.

Using data for 1988 through 1995, the Table shows the growth rate of this feasible approximation of the superlative index calculated using different values of the CES parameter. For comparison, it shows the growth in the CPI. It also shows the growth of the Törnqvist index, which can only be computed with a lag.

In the sample, the CES index with an elasticity of substitution of 0.7 grows at the same rate as the Törnqvist index. The year-to-year standard deviation of the difference between the rate of change of this feasible index and the Törnqvist index is only 0.04 percentage point per year. Thus, the CES index has the same growth rate on average as the superlative index with only small year-to-year deviations from it.

Table

Feasible Approximation to a Superlative Index
(Percentage Points Per Year)

	CPI	CRS Approximation			Törnqvist
		σ=.6	σ=.7	σ=.8	
1988	4.41	4.13	4.11	4.09	4.07
1989	4.65	4.23	4.21	4.19	4.21
1990	6.16	5.63	5.58	5.54	5.63
1991	3.00	2.68	2.68	2.67	2.77
1992	2.96	2.64	2.61	2.58	2.61
1993	2.74	2.51	2.49	2.46	2.45
1994	2.65	2.59	2.58	2.56	2.54
1995	2.57	2.36	2.35	2.33	2.32
mean	3.64	3.35	3.32	3.30	3.32
std. dev.	1.21	1.11	1.10	1.09	1.11

Differences from Törnqvist

1988	.34	.06	.04	.02
1989	.43	.02	-.00	-.02
1990	.53	-.00	-.05	-.09
1991	.24	-.08	-.09	-.09
1992	.35	.03	.00	-.02
1993	.29	.07	.04	.02
1994	.12	.06	.04	.02
1995	.25	.04	.02	.01
mean	.32	.02	.00	-.02
std. dev.	.12	.05	.04	.05

Source: Matthew D. Shapiro and David W. Wilcox, "Alternative Strategies for Aggregating Prices in the CPI," Federal Reserve Bank of St. Louis Review (forthcoming), Table 3. The CRS index approximates a superlative price index with the same timeliness as the CPI. It is based on projections of the expenditure shares using different values of the constant elasticity of substitution (σ). The Törnqvist is a superlative index. It is based on the actual expenditure shares, which are available only with a lag.

The University of Michigan

DEPARTMENT OF ECONOMICS
ANN ARBOR, MICHIGAN 48109-1220
(313) 764-2355
FAX: (313) 764-2769

April 29, 1997

The Honorable Christopher Shays
Chairman
Subcommittee on Human Resources
Committee on Government Reform and Oversight
Room B-372 Rayburn Building
Washington DC 20515

Dear Congressman Shays:

Thank you very much for the opportunity to testify before the subcommittee at the hearing on the Consumer Price Index on April 30. I am attaching a copy of my written statement.

In the appearance before the subcommittee, I am representing my own views and not necessarily representing those of the University of Michigan.

I also am attaching a list of Federal grants and contracts. Your staff has instructed me to list only those grants and contracts in which I participated directly.

Thank you again for the opportunity to testify.

Sincerely,

Matthew D. Shapiro

Matthew D. Shapiro
Professor of Economics

April 29, 1997

Federal Grants and Contracts

Matthew D. Shapiro

National Institute of Aging, "Wealth, Saving, and Financial Security Among Older Households," P01 AG10179-03 (program project grant to Institute for Social Research, University of Michigan), 9/92-6/97, $1,441,000 approx.

National Science Foundation, "Capacity and Macroeconomic Fluctuation," SES-9112936 (research grant to the National Bureau of Economic Research), 8/91-1/96, $126,345.

National Science Foundation, "Capital Mismatch and Sectoral Reallocation," (research grant to the National Bureau of Economic Research), 7/97-7/00, $371,362 approx.

Board of Governors of the Federal Reserve System, Consulting contracts for advice on its definition of and measure of capacity utilization, January 1995-December 1996, $6,000.

Federal Reserve Bank of St. Louis, Honorarium for participation in Federal Reserve System management conference, 9/96, $1,500; Honorarium for participation in annual research conference, 10/96, $3,000.

Federal Reserve Bank of Minneapolis, visiting scholar travel expenses, 9/95-1/96, $8,000 approx.

Mr. SNOWBARGER. All of you have mentioned something that I guess is becoming more and more of great concern to me, and that is this distinction between a cost of living index, if we want to call it that, and the Consumer Price Index.

I think all of you were saying that those are two different things, or should be two different things, measured in different ways, or at least there would need to be adjustments to a CPI to get to a cost of living index. And yet, we have based a number of Government programs, not only on the spending side, but also on the revenue side, that have basically assumed that they are the same, or that they are accurate.

I would appreciate your comments. Have we adopted public policy that's based on this inaccurate assumption, and how significant is that? Should we be looking to—well, I guess one of you suggested—was it Dr. Karl that suggested that we now call for a cost of living index, as opposed to a CPI?

Mr. Hulten.

Mr. HULTEN. Well, I suspect that, when the CPI program was first initiated, the fixed market basket approach was probably regarded as giving a reasonably accurate approximation to the true cost of living. I also suspect that people were not as concerned about the rapid pace of technical change then, and certainly didn't face the kind of very short product cycles that we see today.

So I think that the paradigm, if you will, that was appropriate in the past may be shifting quite a lot in the last two or three decades. But, at the same time, this has rendered the old concept of the fixed market basket obsolete, and we need to make the appropriate modifications to the CPI paradigm that are implied by that.

So I would say that it's not so much an issue of, we have a cost of living index on the one side and the CPI on the other, but a question of bringing the CPI into line with what we now think is the best practice for a cost of living index.

Mr. SNOWBARGER. As opposed to two separate concepts, like Dr. Karl seems to indicate.

Mr. KARL. All I was indicating was that you might be perfectly happy to continue producing a CPI which is on a fixed-weight market basket, and create another index on a cost of living basis that attempts directly, which the BLS acknowledges that the CPI does not, to estimate the cost of living.

Let me go into a couple of things that I didn't particularly cover earlier, in the summary. For example, if you want to get a more accurate estimate of the cost of living, there are some biases. We widely recognize those, quality, substitution, we've heard about those today.

But for getting quality adjustments, that's very, very complex, quite difficult. So you need to adopt some method that is systematic, in that regard, of adjusting for quality changes. The BLS already adjusts for quality changes. The criticism from the CPI advisory commission was that they don't go far enough, and this is often the criticism.

A second kind of thing is, we talked about substitution bias. People change their buying habits, depending on movements in prices. This could be adjusted through more frequent surveying of consumers. The consumer expenditure survey is the method for getting this basket of goods.

Mr. SNOWBARGER. How often is that done now?

Mr. KARL. Excellent question. I am not quite sure. It's every 5 years, I think.

Mr. SHAPIRO. No, it is now done every quarter. And I think the point is that, when the BLS started doing the Consumer Price Index, in the early 1940's, that survey was done every decade. There has also been a lot of conceptual progress in the economics profession. I know that you are frustrated that we are slow, but it wasn't until the mid-1970's that economists figured out how to do a price index that would take into account how consumers substitute.

So we now know how to do the formula correctly.

Mr. SNOWBARGER. You've compounded my problem with all this process by saying that you finally figured it out in the mid-1970's. We're in the mid-1990's now, that's 20 years, and we haven't implemented what you apparently found out back then.

I don't understand what takes so long, once we've figured out that we've done it in a way that gives us maybe a skewed view of things. We now know how to correct for that, and have apparently figured it out, 20 years ago, and we're still in a process where we think we may implement it down the road.

Mr. SHAPIRO. I'm sympathetic with the Commissioner. It takes time to go from a highly technical paper in the Journal of Econometrics into actual practice. Also, the other ingredient was collecting the necessary data, moving the consumer expenditure survey from a decade to an ongoing quarterly sample, and that happened only in the late 1970's.

So this is something I think they should move forward quickly and can do it within the next few years.

Mr. SNOWBARGER. Dr. Karl, we kind of interrupted.

Mr. KARL. That's OK. In any case, what you want to do, I mean, if you just review what Ms. Abraham mentioned, she said they are changing the basket of goods. From 1982 to 1984 was the old basket; now we've got 1993 to 1995. But we could more frequently update that basket of goods to adjust for the substitution problem.

Finally, another way to improve the index would be to, every 5 years—they have a 5-year rolling over survey of outlets that they use in the BLS construction of the CPI. Well, move it up to 3 years, or something, you see. These things can be adjusted for.

I think it's true—I can't recall who said it, or maybe it has been said by a number of people—you will never get to the true cost of living for the average American. You will get a pretty good approximation, and that's what the BLS should be directed to do, and funded and supported in that effort.

Mr. HULTEN. If I can amplify my comments on the distinction between a pure price index and a cost of living index.

Mr. SNOWBARGER. Sure.

Mr. HULTEN. What we're really talking about here, at least to my mind, are two different types of price indices: one that incorporates item substitution, and one that does not. What I was saying is, if we really want to look at a true cost of living, the implicit assumption here is that the physical and social infrastructure is constant.

I think we clearly know that it's not. For example, increasing crime that affects people's behavior, that might require additional expenditures, burglar alarms, whatever it might be, that's a cost of living increase for many people. Deterioration in school quality leads many people to send their kids to private schools, and that's an increase in the cost of living for many people.

Increased congestion which increases travel time to and from work is another example of a real increase in the cost of living for people, which is a reason why I am inclined to say we don't want the CPI to be a cost of living index. I should also point out that in the Boskin Commission report, buried somewhere deep in its pages, you find a section which discusses some of these issues, and they say, but are these the sort of things that belong in a "price," their emphasis, index. And I would say they don't, because we can't measure them very well.

Mr. SNOWBARGER. Let me ask all of you, or anybody that wants to answer, I have a particular product in mind, and I don't know how the change in that product figures in, whether it's a quality change or what. And it's similar to the cell phone.

I'm thinking of my own experience that, somewhere back in the mid-1980's, I decided to go out and buy a computer. And the computer I get at that point in time was, what was it, an 8086, at the low end, and probably cost $3,000, if you just purchased it directly. And there weren't that many places selling an 8086, so you got an IBM or, you know, a Mac, or something of that nature. So there aren't a whole lot of outlets.

Now, fast forward to today, and I want to enter in and buy an entry-level computer for my family, that now costs me maybe one-third of what it cost 10 years ago. And not only that, I've got a faster processor, I've got larger memory, I have access to the Internet, I have software that's loaded on it as it comes from the store. Is that a quality change? Where does it fit into these categories that we've talked about, I guess is my question.

Anybody.

Mr. HULTEN. Yes, it's definitely a quality change.

Mr. SNOWBARGER. OK.

Mr. HULTEN. A dollar you spend on a computer now buys you a lot more computing power. It does, for example, buy you access to the Internet. The more powerful processors also allow types of software that were just not possible 15 years ago. The appropriate way of accounting for this quality change is very much at the center of the debate about the cost of living.

Mr. SNOWBARGER. OK. So this market basket that we're talking about, that we use right now, was when?

Mr. KARL. The current one is 1982 to 1984.

Mr. SNOWBARGER. The current one is 1982 to 1984.

Mr. KARL. It's being changed to January 1993 to 1995.

Mr. SNOWBARGER. Which pre-exists even the first computer that I purchased. So how in the world do we consider that.

Mr. BAKER. If I can clarify an issue here. I think there's some confusion. They set weights for broad categories as of 1982 to 1984. They rotate items into the survey currently every 5 years. As I believe Katharine Abraham said, they are going to change that to every year, with rapidly changing items like computers. So the odds are they might be looking a little bit out of date in the computers; they are not looking at 1982–1984 models.

Mr. KARL. Yes, that's correct. I don't mean to say that they are using the actual weights of what people spent in 1982 to 1984, but it does create a bias toward the 1982–1984.

Mr. SNOWBARGER. Again, the question would be, if we're circulating all those things through, what happened to the cell phone, which is the example that has been mentioned here, and many other kinds of things, whether it's, you know, electronics—primarily electronics, I mean, that's what comes to my mind anyway.

Mr. HULTEN. Could I also make a comment? The actual CPI market basket is considerably more dynamic than the fixed market basket intention really suggests, because about 4 percent of the items in the CPI market basket are discontinued every month, and have to be substituted for by a fairly elaborate and involved process.

Over the course of a year, there is a tremendous churning within the sample, and on top of this, you get this sample rotation process. So, actually, the notion of a fixed market basket really is a conceptual notion that really we don't see in practice.

The real question is, in the process of rotation and replacement of discontinued items, are we pulling in the new goods, like cell phones and VCRs and personal computers, at a rate that is appropriate. I think the general answer is that we have not been in the past.

Mr. SNOWBARGER. I'm looking to my right, and I don't see any Democrats to call on, so Mr. Shays, I will turn to you.

Mr. SHAYS. I thank you.

First, Mr. Baker, I found your testimony very compelling, but then I wanted to qualify it, because it seemed to sound like an all-or-nothing. If we find that the CPI is totally out of sync, the implications are, as I went through your three points, we would have to rework the last 40 years.

What happens if it was all right for the first 30, but simply isn't all right for this last 10? So I'm just wondering if you didn't really kind of overstate it a little bit. My sense is that this is a problem that has been presented more in recent history than in the last 40 years.

Mr. BAKER. Well, I think not, actually. I've looked very carefully at the history of the CPI, and I think what you find is a movement toward improving the methodology. And there is research that dates back—certainly the Stigler Commission compiled much of it—but there is research that has been ongoing since then which has indicated, if anything, the extent of biases, particularly in the area of quality, has diminished through time.

The leading authority here, I would say, is Robert Gordon, who was a member of the Boskin Commission, and in his own work he showed a very, very substantial decline in the amount of quality bias in the CPI over the period which he looked at, which was from the early 1950's to 1983.

Mr. SHAYS. But your first point was, basically, that economists use the CPI as an accurate measure. And the implication there is that it has the support of most economists, or they wouldn't use it.

Mr. BAKER. That's correct.

Mr. SHAYS. I, basically, accept that argument. I also found your second argument, that we have to re-examine everything we do, and that it couldn't be out of line as much as some say, because the implications would draw us to some absurd conclusions, provided you made the assumption that it was a problem that existed for 40 years.

That's the only area where I would want to differ with your testimony, which I thought was very interesting. I thought all of your testimony is interesting.

Mr. BAKER. Let me just point out, you are correct in saying that, but I'm making the conclusion that this existed for 40 years, if it exists today, based on research that indicates that, if anything, the bias would have been larger.

Mr. SHAYS. Let me ask all the other three of you. Do you think, because we say we have the problem now, that it did exist 40 years ago and was a significant factor?

I would ask you, Mr. Hulten.

Mr. HULTEN. Well, in the quality area, my sense is that there has been an acceleration in the underlying rate of quality change, but it's certainly true that, if you go back to the 1930's and 1940's, a lot of new goods were introduced then, as well.

Mr. SHAYS. But the fact is that we know, don't we, we can't keep up with the change. The change is astounding. It would seem to me that change is happening so much more quickly that that would be a factor.

Mr. BAKER. If I could give some examples.

Mr. SHAYS. I just want to finish.

Mr. BAKER. I'm sorry.

Mr. HULTEN. That's one-half the problem. The other half is: what has BLS done about this, and how has that changed over time? My sense is that, based on earlier studies that I mentioned by Moulton and Smedley, quality adjustment within the CPI has also increased.

Mr. Moulton is sitting over there. He is certainly more an expert on that than I am. But my sense is that that's the other part of the issue. And it's not just a question of how much quality change we observe in the marketplace, it's how much of that change do BLS procedures miss.

There are two targets which are moving: the quality change in the marketplace and what BLS is doing to measure the change. That adds another layer of complication and it's very hard, at least for me, to come up with a summary judgment on that.

Mr. KARL. If I could, one thing to clarify this, one thing I recommend is that we have two indexes. One would be the cost of living index which best approximates the cost of living, given the research at the time, and comes out on a very timely basis, and is not revised. Why not revised? Because contracts are written on this, and it becomes quite complicated if you revise data and then, oh, well, it's now 1 percent less, and give me my wages back, or vice-versa; and another index, which takes into account the latest research and is revised over history.

So if you look at the Consumer Price Index, it is an unrevised history of what has happened to prices. Yet the BLS, every year practically, consistently revises it, incorporates new methods of quality adjustments, moves forward on more adjustments of introducing the goods that disappear and the new goods that come in.

So it is not an animal that has a consistent bias over time, because it is not an animal that has been the same over time. And it's nice, for research, to have an animal that is the same over time, because then you can, if you are using it to explain something or trying to explain it with data that is consistent over time, then you can get an accurate measurement of those relationships.

So it's a dynamic thing.

Mr. SHAYS. So your bottom line conclusion is? Part of what you said went over me a little bit here.

Mr. KARL. OK. That's fine.

Mr. SHAYS. No, not your fault. I'm willing to blame you for a lot of things, but not that I can't understand something.

I want to touch on the third part of Mr. Baker's testimony, the third point, and that was, basically, that we couldn't have been off all that much, because if we were off as much as, say, a point, and we go back 40 years and then go forward with this new data, we would come to absurd conclusions that simply wouldn't make sense.

That seems like a powerful argument on the surface, and I'm just really trying to get a better handle whether you think that some of the problem we see now is something that is more recent, in terms of its challenge to us.

Do you understand my question?

Mr. KARL. I tend to agree with Mr. Baker that 1.1 percent seems to be large. As a consequence, you don't get these kinds of counterfactual information of, geez, we're doing so well. One thing I use in my talks is that, well, if this is true, then the standard of living is rising so rapidly, everybody is happy; right?

Often, in talking to audiences, you don't find that they are feeling that their real standard of living is going up so rapidly. But the changes, the bias movement over time depends on how it was done, at what point in time. For example, Ms. Abraham mentioned in her testimony this thing dealing with the housing index, and that was considered highly overestimating the cost of living for the average person for a period of time, and they changed that, the way they measure housing costs over to this rental kind of thing.

So the bias has always been there, and it has gone up and down, depending on how they have actually calculated the index. How high it is, I'm not an expert to say.

Mr. SNOWBARGER. Mr. Shapiro, I want you to comment, as well, if you know what my question is.

I just want to say to you, Mr. Karl, that I came from a middle class family, in a town that had upper middle income and more wealthy. You know, it was a big deal for my parents to take us out on a five-horsepower boat. We would rent this little boat, and we would go to a little island. It was five horsepower, I mean, this was a big thrill.

And I think of people today and the boats they have, middle and lower middle income, that things that they have that I wouldn't even have conceived of being able to enjoy, that they have for their kids, and so on. I just have to believe that it is a whole different world out here, and I'm just not sure that we have captured it right.

Mr. Shapiro.

Mr. SHAPIRO. We know less about the bias as we go further back in time, but I think it's fair to say it has probably been there for the last 40 years. I would be willing to extrapolate back the 1 percent number for 40 years.

I think it's probably wrong to think that the pace of quality improvements sped up dramatically. There has always been a lot of quality improvement, especially as bears on consumer goods. We think back to the advent of kitchen appliances, Teflon, nylon, penicillin, all these innovations happened much earlier.

We tend to focus now on the electronics, because we are quite familiar with them and they are changing a lot now, but they are not a huge part of the consumer's budget. There has been a tremendous increase in the quality of items that individuals consume over the last 40 years.

I would disagree with Dean Baker's conclusion that, if there has been this bias, much of economics has to be overturned. It's true that, perhaps, we are 30 or 40 percent better off in real terms than we would measure using the CPI, but that is not an absurd conclusion.

The remarks you just made about comparing the standard of living of individuals when you grew up versus now is in line with there having been a big bias. Things are definitely much better. There is a huge range of goods available that weren't available, color TV instead of black and white TV, for example.

Part of why people feel that economic times are bad or not as good as they have been is that the rate of growth in wages has slowed down substantially. In the 1950's and 1960's, it was 2.5 percent, 3 percent; now it's zero or 1 percent, in a good year. The CPI bias wouldn't make that go away. It would basically say it was growing even faster before and maybe growing a little faster now, but the slowdown would still be there.

Mr. SHAYS. So the proportions would still be.

Mr. Baker, you had wanted to make a comment.

Mr. BAKER. I just wanted to point out that, you know, the issue isn't just the number of new goods but their importance. Just to give you some examples of goods that got incorporated late into the CPI: air conditioners, home air conditioning was not in the CPI until 1964, when it was a fairly common item; air travel was not in the CPI until 1964; home clothes dryers were not in the CPI until 1964. You were mentioning boats. I would be willing to bet it was at least 1964, and maybe not until 1978, that that got incorporated.

So this idea that we're behind the curve in technology, because there has been such a substantial improvement in BLS procedures, even if there has been a more rapid rate of technological change, I'm willing to bet that we are much closer to the curve now than we were 30 years ago.

Mr. SHAYS. Yes, Mr. Hulten.

Do you want to go, and then I will come back?

Mr. SNOWBARGER. No, if you are following it through, go ahead.

Mr. SHAYS. No, no, why don't you go, and then I'll come back.

Mr. SNOWBARGER. Just a couple questions real quickly. When we talk about cost of living, another problem area that we haven't talked about is other factors that change our buying behavior. I don't know if that's going to be reflected in this CES, consumer expenditure survey.

The example that was given by one of our colleagues early on was the price of steak going through the roof, and therefore you change to chicken, but your quality of life has gone down. When he mentioned that example, I immediately thought, coming from a beef-producing State, of the ripple effects that it had when dieticians were coming out and saying that beef is basically bad for you, red meat is basically bad for you.

So now we, I presume, have changes in buying patterns that aren't based on economics at all; they are based on something else. That person's love of beef and having to change over to chicken will change his quality of life, as well, but apparently he made that decision to do so, and again, made it on a noneconomic basis.

Is there any way to factor out those kinds of factors, when you are trying to figure out an economic index?

Everybody wants to answer this at once, I can tell.

Mr. SHAPIRO. I'll take it. That's quite difficult. We should not be too ambitious with what we ask the BLS to do. I think we should really concentrate on getting the best measure of the prices of transactions and the cost of living for basically market-oriented purchases.

To broaden your question somewhat, I would be quite resistant to trying to have the environment or crime reflected in the Consumer Price Index, or a cost of living index that the BLS produces. Similarly, if health concerns cause substitution, that's something that probably should be abstracted from, and we should just concentrate on prices and quantities, which we can measure.

Mr. BAKER. Let me see if I can add a word on this. The point you are raising is exactly why it has taken BLS 20 years from when the research that Matthew Shapiro was talking about was done to try to implement that in the index, because there are real debates about how to appropriately implement it, and those continue today. So it's not an open and shut question.

Mr. SHAYS. Well, it's taken us 20 years to balance the budget, or 24.

Mr. SNOWBARGER. It's essentially 28, and we haven't balanced it yet.

Mr. SHAYS. We're throwing stones.

Mr. HULTEN. If I might also add something here. You have raised what is really, in many regards, the Achilles heel of index number theory, and that is the problem of changing tastes. This is known in the literature on index number theory, known as the "index number problem." It's also known that it is a very, very difficult problem, over and above the question of constructing an index for a fixed set of preferences. In some cases, there is no one correct solution.

Mr. SNOWBARGER. It would seem, though, we've got four of you here, that you would all agree that the kind of example that I gave, the decision based on something other than economics, should not be calculated in this. We came to that conclusion in about 30 seconds. Why is taking 20 years?

I still don't understand. I understand debates go on and on, but I still don't understand the length of time that it's taking on some of these things. That really doesn't need a response. I doubt that you will be able to satisfy my curiosity about why it takes so long.

Mr. Baker, I want to go back to a statement that you made, and Mr. Shays, I guess, interpreted it a little bit differently than I did. Therefore, I want to give you an opportunity to explain what you meant by it.

I almost got the feeling, when you were talking about the current CPI, that you were basically saying everybody uses it, therefore it's accurate. And that doesn't make sense to me. It's like, you know, if you say it often enough, it's true. I don't believe that either.

Mr. BAKER. Well, what I am referring to here is, I consider it worthwhile to know what people who are familiar with it think about it. So what I'm saying is that there has been some effort to say, well, economists all agree. There's even been some crude polling done, saying, you know, so many of so many economists say they think it's overstated by an average of 1 percent, 1.1, whatever it might be.

So I'm just saying, if we value what economists think about it, my way of finding out what they think about it is seeing what they do in their work.

Mr. SNOWBARGER. How many of them, though, go out and re-examine the CPI before they base their research on the CPI, or base their conclusions on it? In other words, how many of you go back and say, "Well, first of all, before I include that in my conclusions, I'm going to go back and do my own research on CPI. And once I'm convinced it's accurate, then I'll move on."

Isn't it the case that you say, "I've got to start somewhere. I'm going to start with that and move on." And that doesn't necessarily mean that was an accurate measure.

Mr. BAKER. It's standard for economists, when they begin their research, to discuss the quality of their data. And if there is some reason to believe that their data has some flaw in it, to at least note it and, if possible, to make a correction for it. If, for example, I was doing work, and I was convinced that the CPI overstates inflation by 1.1 percent, I would just say, "We all recognize this. I'm, therefore, making this adjustment." It's a very simple thing to do.

Mr. SNOWBARGER. Of course, that statement came out in December of last year? That was the timing of the Boskin Commission. Maybe it was out there before that. Is there more question now about the accuracy of the CPI than prior to the time that report came out? In other words, are more people looking into this now that might have just taken it for granted earlier?

Mr. BAKER. I think there is more research being done in that area, but I think you could still look at the most recent journal articles, and you probably will not find a single article where the person has done their work assuming that the CPI was overstating inflation.

Mr. SNOWBARGER. Well, yes, I would suggest the most recent journal work was done prior to December, most likely, at least the basic work.

Mr. BAKER. That's correct. I should also point out that the research on which they were basing this conclusion, for the most part, dates back, in many cases, 20 years. So this is not new research. This information, for the most part, was widely available to economists for a long time. They might have chosen to ignore it, but it was available.

Mr. SNOWBARGER. Mr. Shapiro.

Mr. SHAPIRO. It is important to ask what parts of economic research would be affected by this. In many uses of the CPI data, even if there were a bias, it would not change the conclusion. For example, if one were trying to estimate the impact of a change in Federal Reserve policy on the change in the rate of inflation, if there is a constant bias, that will just go in the constant term, and one can still estimate, consistently, what the effect of policy would be on changing the rate of inflation.

Mr. SNOWBARGER. You are presuming the bias was consistent?

Mr. SHAPIRO. I think that would be a reasonable assumption for that kind of study.

Mr. KARL. Speaking, if I could, more from the business community, what we're really looking for is accurate data. It's recognized, and I think it's widely accepted, that there are some problems with the Consumer Price Index. It's widely used as a cost of living index. All I'm suggesting is that we get more accurate information on that, going forward as well as revised backward, clearly, if we have a revised historical series on the CPI.

Mr. SNOWBARGER. I think we're saying the same thing.

Mr. SHAYS. I'd love to pursue that, if I could.

Mr. SNOWBARGER. Sure.

Mr. SHAYS. I wonder if you're not saying you want it as much accurate, but you want consistent data.

Mr. KARL. Consistent and accurate.

Mr. SHAYS. Both, but almost if it's consistently bad, at least it's consistent.

Mr. KARL. That's exactly right. Just as Professor Shapiro mentioned, if the bias has been constant over time, it won't matter for your estimation results. It's just a constant. It's just irrelevant to the study if it's consistently wrong. The CPI, as it stands now, is not consistent over time. So something consistent is very useful in research, in addition to getting accuracy. They are different concepts.

Mr. SNOWBARGER. Mr. Hulten.

Mr. HULTEN. I wonder if I would also add that, while the spotlight today is on the CPI, there are many other areas of our statistical system where people suspect the data is flawed, perhaps not with a conviction that it's biased in one way or the other. For example, our GDP measures exclude many important aspects of economic activity.

A researcher who wants to try out a new theory by confronting it with data is likely just to swallow hard and use the data as they stand, realizing that almost all the data are problematic to some degree.

Mr. SHAYS. Just one area that I'd like to just pursue because you both used the same imagery, low-hanging fruit.

Mr. Hulten, I got the feeling that you were saying there isn't any low-hanging fruit, in your testimony. I just want to be clear on that. You said, "There are no quick fixes for the quality problem, no low-hanging fruit on the quality tree." So it just related to the quality issue?

Mr. HULTEN. Yes, I was explicitly referring to the quality issue. I think it's different in the area of substitution bias.

Mr. SHAYS. OK. I would like that, for the record.

Mr. Shapiro, you are basically saying, "By taking these two steps, the BLS could reduce the CPI's overstatement of the change in the cost of living by about one-half percentage point per year, on average. These two steps are the low-hanging fruit of CPI bias." And those were "high-level substitution" and "averages individual prices." I don't know what the second point is.

Mr. SHAPIRO. The second point is the move to the geometric means.

Mr. SHAYS. Can you move the mike a little closer to you. I'm sorry.

Mr. SHAPIRO. The second point is the move to the geometric means, Commissioner Abraham indicated that the BLS is likely to make this change, beginning in 1999.

Mr. SHAYS. That they are focused on, but not the first part.

Mr. SHAPIRO. Not the first; right.

Mr. SHAYS. And your point is, these areas there is more consensus on. It does happen to equal the amount that congressional leaders and the White House seem to have been reporting in the newspaper of about 0.45 percent. I suspect it's in these two areas.

The question I would then raise is, but how quick would this process take to deal with these two areas?

Mr. SHAPIRO. I think the timetable that Commissioner Abraham discussed for the geometric means, or the second of my points, seem quite reasonable.

Mr. SHAYS. Which is the beginning of 1998, so effect in 1999.

Mr. SHAPIRO. Yes. It does take time to make sure everything is programmed correctly and to let the users know. That actually strikes me—they basically figured this out in the 1992–1993, to get it into the index in 5 years, given that it took some time to digest the original result and then figure out what the right solution is.

Mr. SHAYS. How about the first point, on the substitution?

Mr. SHAPIRO. I think they could do that about as quickly, but they haven't started, so I think it would take another year or two, but not 17 years.

Mr. SHAYS. So it would take another year beyond 1999?

Mr. SHAPIRO. Yes.

Mr. SHAYS. Almost the year 2000. What that says to me is that, if a budget agreement includes something higher than a 0.2 percent, or something beyond that, what I'm hearing you all say is that you support, as economists, the position of the Bureau of Labor Statistics on this issue. I'm making an assumption all of you do.

Excuse me. I should ask you each, on the timetable. First, maybe I need to ask you if you view this as low-hanging fruit, Mr. Baker, those two points?

Mr. BAKER. Yes, the low-hanging fruit. I can live with that. One qualification I would make, with the case of geometric means, is exactly what has been discussed here before, that it's not appropriate everywhere. But I think BLS is going through it the right way, and introducing it in 1999 is a reasonable timetable.

Mr. SHAYS. And substitution?

Mr. BAKER. Substitution, I think there are some problems with adopting the method that Matthew Shapiro suggested. I think it's a reasonable proposal, but I don't know if I would jump to do it.

And I would also point out that BLS, in their research on this, it actually turns out that the average amount that would affect the CPI is 0.14 percent over the last 8 years. In a typical year—this is driven a lot by the high inflation around 1990 and the Persian Gulf war—typical year, it would be just one-tenth of 1 percent.

I just think it's important to realize there is probably a little bit less at stake there than we might believe.

Mr. SHAYS. Dr. Karl.

Mr. KARL. I haven't looked into the superlative issue, the first one that Professor Shapiro mentioned. I have looked a little bit into the geometric mean, and I think the BLS should proceed cautiously. And by 1999, that would be about the appropriate time.

Let me just raise why it has to go cautiously, so you understand the issue. Let's take myself, as a consumer of tea and coffee. I love coffee. Double the price; I spend as much on it. I'd double my spending on coffee. And the geometric mean would say that I'm going to substitute down and spend less on coffee.

So there are issues between the particular goods and choices that the geometric mean is applied to, in the calculation of the CPI.

Mr. SNOWBARGER. Excuse me. If I could.

Mr. SHAYS. Yes.

Mr. SNOWBARGER. Isn't that going to be handled in the CES? In other words, isn't your buying pattern somehow going to be contained in all this?

Mr. KARL. If you had a more frequent updating of the basket that people are actually buying, you could accommodate what the geometric mean attempts to do, as I understand it, which is to accommodate some of the substitution behavior for price changes.

Mr. SNOWBARGER. Right. But, again, are we not doing this as often as we need to, either the CES or the market basket? Is that what we're saying?

Mr. BAKER. There's another issue here, and someone may be more familiar with this particular aspect of the CES than I am, but in this particular example, my understanding is that the CES does not get to that low a level of disaggregation. So I believe the category would be noncarbonated beverages, something to that effect.

Mr. SNOWBARGER. You mean—excuse me.

Mr. SHAYS. No, that's all right. It's an interesting hearing, actually. I didn't come thinking I would be as engaged.

Mr. SNOWBARGER. You mean that the CES and this market basket of goods are not that closely connected, I mean, in terms of the data that they are trying to collect? In other words, don't they try to find buying patterns on the same goods that they put in the market basket?

Mr. SHAPIRO. Could I clarify this?

Mr. SNOWBARGER. Yes.

Mr. SHAPIRO. The CES is used to get the broad weights of fairly narrowly defined goods and services, like carbonated beverages. Then there is another BLS survey, called the Point of Purchase Survey, which actually tries to figure out what specific goods, down to the size of the can and brand and store, and that's much more detailed.

Mr. SNOWBARGER. That's all within CES, though?

Mr. SHAPIRO. No, that's actually another survey called the Point of Purchase Survey.

Mr. SNOWBARGER. You are the wrong people to answer this question, but is that calculated into the CPI measurement?

Mr. SHAPIRO. Yes.

Mr. SNOWBARGER. It's used as well?

Mr. SHAPIRO. They use that to figure out exactly—when they are trying to represent the price of carbonated beverages, they actually choose this can of Diet Coke.

Mr. SNOWBARGER. So the fact that Dr. Karl is a coffeeholic is going to show up in this point of purchase, as opposed to CES, but it will be taken into account?

Mr. SHAYS. You've just ruined his reputation.

Mr. SNOWBARGER. Not really. I wasn't putting a value judgment on that.

Mr. SHAYS. Could I just have you, Mr. Hulten, just respond to the issue of the substitution geometric?

Mr. HULTEN. Well, it strikes me that the timetable set by the Commissioner is reasonable, although I'm certainly not an expert on this phase of the problem. But it may actually have a spillover benefit on the quality side, because it's my understanding that part of the quality problem is really being masked by a formula bias. I think that we would see a different quality measurement from BLS, when this switch is implemented. This might qualify as some mid-level hanging fruit in the quality area.

Mr. SHAYS. Do you want to say one thing? And then I'm going to wrap this up.

Mr. SHAPIRO. I just want to clarify one point about the magnitude of the high-level substitution bias. I'm putting a table into the record, giving our estimate, and retrospectively looking over the period 1988 to 1995. We estimate that it was 0.32 percentage point per year. Now, that somewhat overstates what the effect of fixing the bias would be. Because the BLS is going to update the baskets, but our estimates would be closer to 0.2 percentage points per year, not the 0.1 that Mr. Baker stated.

Mr. SHAYS. I might just say, Mr. Chairman, that I came to this hearing with, first, no hidden agenda, just a general bias that said that somewhere between 0.6 and 1.1 was probably where I would come down in this mix, and thinking that we could take pretty quick action. In other words, a sense that we should move more quickly, because the thought that we would be overcompensating, to me, would be very distressing.

The four of you have basically backed up the BLS, so I'm trying to now figure out what your biases are, because you don't agree with what my original view was. But you all seem to be saying, it seems to me, and I want to make sure I'm clear on this, that there are changes that can be made, that the changes might have an impact of somewhere between 0.4 and 0.5, in the near future, but not as quickly as I would like.

We're working on balancing the budget by the year 2002. You are just saying that we're not going to be able to, from a budgetary standpoint, see the benefit in the budget until the end of that effort. And you are backing the Bureau of Labor Statistics' view that they, at the earliest, 1999, is when you're going to start to see the impact of a change. Is that pretty fair an analysis?

OK. I would also, if I could, just state for the record that Mr. Moulton, Brent Moulton, who works for the Bureau of Labor Statistics, is here, and I appreciate that someone from the Bureau stayed to hear your testimony. I think that's important, so I appreciate that.

I found your testimony very interesting and very helpful.

And I found this hearing very helpful. Thank you, Mr. Chairman, for having it.

Mr. SNOWBARGER. Well, thank you.

I want to thank the witnesses for both waiting through the first panel, as well as presenting your testimony and answering questions.

I would also like to thank the chairman for the opportunity to Chair the committee today. Thank you very much.

With that, we will be adjourned.

[Whereupon, at 1:15 p.m., the subcommittee was adjourned.]

[Additional information submitted for the hearing record follows:]

JUL 1 4 1997

Honorable Christopher Shays
House of Representatives
Washington, D.C. 20515

Dear Congressman Shays:

At the April 30 hearing of the Subcommittee on Human Resources of the House Committee on Government Reform and Oversight, you requested additional information on the Consumer Price Index (CPI) and information on the number of people at the Bureau of Labor Statistics (BLS) who have access to our major economic indicators before they are released.

Enclosure 1 contains information on the variation in the rate of growth of consumer prices across geographic areas. This table shows annual averages and percent changes from the preceding year for the 1996 CPI for All Urban Consumers (CPI-U) by expenditure category, for all 29 individually published areas. The over-the-year percent changes at the all-items level ranged from 1.5 percent to 4.3 percent in 1996. I should point out that the local area CPI indexes are byproducts of the national CPI program. Each local index has a smaller sample size than the national index and is, therefore, subject to substantially more sampling and other measurement error. As a result, local area indexes show greater volatility than the national index.

The 1996 annual averages for all areas other than New Orleans and Tampa Bay show how much the indexes have changed between the 1982-84 base period and 1996. (Data for New Orleans and Tampa are published on a 1987=100 reference base.) Percent changes at the all-items level over the 1982-84 to 1996 period for the 27 areas for which they could be calculated range from 42.7 percent to 70.7 percent. Please note that, due to bimonthly pricing, data for all areas are not available for any single month.

The CPI's for individual areas should not be used to compare living costs among the areas. An individual index measures how much prices have changed in that particular area over a specified period of time. It does not show whether prices or living costs are higher or lower in that area relative to

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another. Moreover, both the market basket and relative prices of goods and services in the base period may vary substantially across areas. The current market baskets reflect 1982-84 expenditures patterns, updated for relative price change to either November or December 1986, depending on the particular area, and were introduced into the CPI in 1987. (With release of the January 1998 CPI, a new market basket based upon 1993-95 expenditures will be introduced.) Enclosure 2 presents the relative importances of components of the CPI for each published local area at the time of their introduction in 1986. Variation in local area expenditure patterns may be observed by comparing these relative importances among areas. Areas with subway systems, for example, such as New York, San Francisco, and Washington, D.C., have a large relative importance for public transportation.

Enclosure 3 contains detailed information on the change in the expenditure weights in the CPI that you may find of interest. This table shows the expenditure shares by major item category and for all 207 detailed item categories, based upon the 1982-84 and preliminary 1993-95 urban consumer market baskets. The last column of the table shows the relative importance of each component in the CPI-U as of December 1996; these are based on 1982-84 expenditure shares updated to reflect price change that has occurred since that time. Please note that the 1993-95 data show the current item structure, not the revised item structure to be introduced with the January 1998 data. I also have enclosed a copy of the revised item structure, labeled Enclosure 4.

In response to your question about the procedures for issuing sensitive data, the BLS follows the Office of Management and Budget Statistical Policy Directive Number 3, which requires statistical data to be released promptly after compilation and precludes pre-release distribution of information except under very restricted conditions. The processing and analysis of data for BLS news releases takes place entirely within BLS. Procedures to provide physical and computer security are followed scrupulously. Less than three dozen BLS employees typically have access to the final

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data prior to release. These include between 20 and 25 people who process, review, and analyze the data; the remaining staff provide final review and prepare the material for publication at release time. The data are provided to the Chairman of the Council of Economic Advisers late in the afternoon of the day prior to release, after the material has been finalized. We give no one else outside of BLS the final data until the morning of release.

If you have any questions about any of this information, please let me know, or have a member of your staff call Cheryl Kerr of my staff on 202-606-7808.

Sincerely yours,

Katharine G. Abraham
Commissioner

Enclosures

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cc: Gen. F. Dalton Com. R.F. Greenlees Abraham Jackman Kerr Klein Chron. **Parks**

Enclosure 1

Table 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and commodity and service group

(1982-84=100, unless otherwise noted)

	Anchorage, AK		Atlanta, GA 1/		Baltimore, MD 2/		Boston-Lawrence-Salem, MA-NH	
Expenditure category	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996
All items	142.7	2.7	156.0	3.4	154.2	2.3	163.3	3.0
All items (1967=100)	380.9	-	470.4	-	461.3	-	474.7	-
Food and beverages	143.4	3.5	153.4	4.7	158.8	2.8	157.7	2.7
Food	143.6	4.1	156.9	5.2	159.5	2.7	157.5	2.6
Food at home	148.2	3.1	152.1	5.8	159.4	2.9	155.6	2.4
Cereals and bakery products 3/	149.4	1.5	154.0	5.8	193.1	1.6	172.9	.8
Meats, poultry, fish, and eggs 3/	133.5	-1.0	146.6	7.2	139.9	2.0	148.8	6.1
Meats, poultry, and fish	133.2	-1.6	145.7	6.1	141.1	.9	149.3	5.7
Dairy products 3/	133.4	3.0	147.4	7.9	154.8	6.3	135.3	4.2
Fruits and vegetables 3/ 4/	216.2	9.0	198.3	8.5	191.1	3.6	194.2	-.7
Other food at home 3/	126.0	2.1	130.1	.5	151.7	3.0	138.5	.2
Food away from home	136.3	5.1	164.2	4.3	157.5	1.5	161.6	2.7
Alcoholic beverages	141.5	.5	124.7	.4	150.8	4.6	160.4	2.6
Housing 4/	127.9	2.4	151.8	3.8	143.7	2.1	157.2	3.7
Shelter	128.6	3.1	166.4	4.9	160.1	1.9	181.6	4.1
Renters' costs 5/	152.4	2.7	189.4	7.1	162.5	2.2	192.9	4.4
Rent, residential	117.4	1.8	166.8	5.7	159.6	1.9	169.9	4.3
Other renters' costs 3/ 6/	280.7	4.2	256.2	10.2	150.0	3.1	225.8	4.7
Homeowners' costs 5/	129.8	3.0	162.7	4.0	166.8	1.8	185.2	4.3
Owners' equivalent rent 5/	129.7	3.1	163.1	3.9	167.8	1.8	185.6	4.3
Fuel and other utilities 4/	141.2	.1	134.5	5.2	119.0	5.7	123.0	2.8
Fuels	136.8	-1.2	128.2	5.9	112.9	6.2	105.0	4.2
Fuel oil and other household fuel commodities 3/	99.6	7.2	109.3	7.7	96.2	17.2	96.4	14.8
Fuel oil 3/	104.7	9.4	NA	-	98.4	17.3	97.6	15.6
Other household fuel commodities 3/ 7/	109.3	2.3	130.7	7.6	NA	-	101.0	.0
Gas (piped) and electricity (energy services)	152.4	-2.0	129.3	5.8	128.6	4.4	123.7	.7
Electricity	150.4	-.3	138.0	.5	136.8	.0	137.3	1.1
Utility (piped) gas	150.9	-5.4	118.1	14.5	110.6	18.5	104.9	.2
Household furnishings and operation 4/	113.9	1.2	125.5	-2.3	126.1	.1	117.9	2.3
Apparel and upkeep	128.7	-1.0	145.4	-5.2	132.8	1.8	142.9	-.6
Apparel commodities 3/ 6/	127.6	-1.1	139.3	-6.2	127.0	1.7	133.0	-.7
Men's and boys' apparel 3/	159.8	-3.2	131.8	-4.2	126.1	3.4	130.3	3.0
Women's and girls' apparel 3/	126.7	2.3	140.8	-8.7	115.4	-4.5	115.3	-4.2
Footwear 3/	87.9	-8.4	140.8	-4.2	152.3	8.6	147.3	5.4

See footnotes at end of table.

Table 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and commodity and service group-Continued

(1982-84=100, unless otherwise noted)

	Anchorage, AK		Atlanta, GA 1/		Baltimore, MD 2/		Boston-Lawrence-Salem, MA-NH	
Expenditure category	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percen change from 19 to 199
Transportation	147.2	2.4	134.7	5.2	140.3	1.4	139.5	1.8
Private transportation	142.1	3.6	135.8	5.9	139.7	1.4	140.3	1.7
Motor fuel	110.8	9.7	95.7	6.9	107.0	6.3	106.2	5.5
Gasoline	111.3	9.8	95.1	6.9	104.6	5.9	105.0	5.1
Gasoline, unleaded regular	107.8	9.3	91.6	7.4	104.8	6.8	103.1	4.9
Gasoline, unleaded midgrade 8/	108.0	10.5	116.0	6.1	105.2	5.0	108.9	3.7
Gasoline, unleaded premium	114.8	10.8	102.0	6.3	102.9	4.5	108.7	3.0
Public transportation 3/	179.1	-4.1	108.1	-6.8	144.6	-.4	134.1	2.1
Medical care	231.1	9.2	240.7	2.0	237.4	3.2	280.8	5.5
Entertainment 9/	177.1	3.4	180.3	5.6	167.2	4.1	169.7	1.4
Other goods and services 4/	164.6	.8	200.7	3.0	213.9	3.2	220.2	3.2
Personal care 3/	127.5	-3.0	172.4	8.1	130.2	.0	147.6	5.2
Commodity and service group								
All items	142.7	2.7	156.0	3.4	154.2	2.3	163.3	3.0
Commodities	136.6	2.7	136.9	1.3	140.6	2.3	138.9	2.9
Food and beverages	143.4	3.5	153.4	4.7	158.8	2.8	157.7	2.7
Commodities less food and beverages	132.5	2.2	127.5	-.7	130.6	2.0	127.2	3.0
Nondurables less food and beverages	127.5	2.4	128.3	-.4	133.7	3.3	131.3	3.1
Durables	139.3	2.0	125.0	-1.3	128.4	.2	125.6	3.0
Services	148.0	2.8	175.8	4.8	170.8	2.3	186.9	3.0
Medical care services	238.5	10.2	249.0	2.3	239.2	2.5	290.0	5.6
Special indexes								
All items less shelter	148.4	2.6	153.2	2.8	153.4	2.5	158.2	2.5
All items less medical care	138.9	2.4	150.8	3.5	150.2	2.2	157.7	2.7
All items less energy	144.8	2.7	163.0	3.2	161.0	2.1	172.0	2.9
All items less food and energy	145.0	2.5	164.6	2.7	161.4	1.9	175.4	2.9
Energy	119.1	4.1	103.9	6.2	109.6	6.2	104.8	4.6
Commodities less food	133.1	2.1	127.1	-.7	131.4	2.1	128.7	3.0
Nondurables less food	129.0	2.1	127.5	-.3	134.8	3.5	132.9	2.9
Nondurables	135.8	3.0	140.7	2.2	145.6	3.0	144.3	2.9
Services less rent of shelter 5/	178.4	2.5	190.6	4.8	188.2	2.8	200.9	2.0
Services less medical care services	141.4	2.1	168.6	5.2	165.3	2.4	178.8	2.8

See footnotes at end of table.

Table 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and commodity and service group-Continued

(1982-84=100, unless otherwise noted)

Expenditure category	Buffalo-Niagara Falls, NY 10/		Chicago-Gary-Lake County, IL-IN-WI		Cincinnati-Hamilton, OH-KY-IN		Cleveland-Akron-Lorain, OH	
	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996
All items	157.1	3.7	157.4	2.7	149.6	2.3	152.0	2.8
All items (1967=100)	443.0	-	470.3	-	463.0	-	487.2	-
Food and beverages	153.0	4.0	156.1	3.2	141.5	1.9	154.2	3.6
Food	152.1	4.1	154.9	3.1	139.7	1.8	155.1	3.7
Food at home	154.0	5.2	161.9	3.5	138.1	1.7	150.2	4.2
Cereals and bakery products 3/	179.8	10.4	179.9	3.7	173.7	4.3	171.0	5.4
Meats, poultry, fish, and eggs 3/	141.7	5.4	162.9	3.7	112.9	1.6	147.9	5.9
Meats, poultry, and fish	143.3	4.5	165.5	3.1	112.1	1.0	149.1	5.2
Dairy products 3/	123.4	10.2	156.9	7.8	129.8	5.0	143.3	9.5
Fruits and vegetables 3/ 4/	204.5	1.4	184.0	3.5	144.4	-2.1	177.3	2.4
Other food at home 3/	142.2	2.7	140.0	.8	148.5	1.2	127.7	-.2
Food away from home	149.4	3.4	142.8	2.4	143.9	2.6	165.5	2.9
Alcoholic beverages	160.7	2.7	168.9	3.9	160.1	2.1	145.7	1.8
Housing 4/	165.5	3.7	155.1	3.0	142.1	3.0	148.6	2.4
Shelter	193.3	3.6	180.2	3.0	160.4	2.6	166.9	3.9
Renters' costs 5/	198.7	.9	181.4	3.1	159.3	1.8	178.4	3.8
Rent, residential	170.8	2.3	175.8	3.0	157.4	1.9	157.2	2.9
Other renters' costs 3/ 6/	227.3	-.9	171.9	3.2	140.5	1.4	216.8	5.7
Homeowners' costs 5/	197.2	4.3	186.5	3.0	161.8	2.9	163.5	3.8
Owners' equivalent rent 5/	197.8	4.5	185.2	2.9	162.7	3.0	164.3	3.9
Fuel and other utilities 4/	133.4	5.5	120.8	6.8	118.4	3.0	124.2	3.5
Fuels	138.1	5.7	112.4	9.7	110.0	3.8	118.6	5.2
Fuel oil and other household fuel commodities 3/	86.5	5.9	95.8	5.2	88.4	13.5	98.1	4.0
Fuel oil 3/	88.7	8.8	94.9	4.2	NA	-	91.2	12.3
Other household fuel commodities 3/ 7/	123.7	.0	123.7	6.4	129.6	13.5	116.4	-3.9
Gas (piped) and electricity (energy services)	149.5	6.0	115.4	9.7	115.6	3.3	120.4	5.3
Electricity	184.8	2.3	124.4	1.7	126.3	-.6	139.7	2.7
Utility (piped) gas	125.1	10.4	106.9	19.8	101.8	13.5	104.4	8.4
Household furnishings and operation 4/	131.4	1.2	116.1	-.9	117.1	4.6	125.0	-3.5
Apparel and upkeep	119.0	1.8	120.6	-4.5	131.8	-4.8	128.8	1.3
Apparel commodities 3/ 6/	117.6	1.7	120.2	-5.0	128.9	-5.4	126.5	1.0
Men's and boys' apparel 3/	124.1	3.1	119.6	-3.2	117.4	-8.4	138.6	2.7
Women's and girls' apparel 3/	111.6	-.4	107.4	-10.7	113.7	-7.5	131.7	.8
Footwear 3/	138.1	1.5	147.0	4.0	189.6	-.7	85.0	-7.6

See footnotes at end of table.

Table 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and commodity and service group-Continued

(1982-84=100, unless otherwise noted)

	Buffalo-Niagara Falls, NY 10/		Chicago-Gary-Lake County, IL-IN-WI		Cincinnati-Hamilton, OH-KY-IN		Cleveland-Akron-Lorain, OH	
	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 199 to 1996
Expenditure category								
Transportation	132.4	3.6	139.9	3.6	138.5	2.6	138.5	4.1
Private transportation	128.2	3.1	138.0	3.6	137.2	3.9	138.5	3.7
Motor fuel	102.9	4.3	108.4	7.3	117.0	7.5	114.7	9.2
Gasoline	103.0	4.1	108.2	7.3	116.7	7.5	114.1	9.1
Gasoline, unleaded regular	101.9	4.9	106.5	7.8	118.9	8.6	113.3	9.9
Gasoline, unleaded midgrade 8/	110.8	3.3	115.0	6.7	118.3	8.3	116.8	8.1
Gasoline, unleaded premium	104.8	2.3	109.1	6.6	105.8	4.3	116.0	7.3
Public transportation 3/	202.4	8.7	155.0	3.1	168.9	-13.5	140.4	9.2
Medical care	187.3	3.0	229.4	2.7	225.8	1.5	209.4	3.4
Entertainment 9/	197.1	4.9	167.2	3.9	156.5	5.2	155.8	1.8
Other goods and services 4/	212.7	4.4	222.4	2.6	220.4	5.3	193.0	1.6
Personal care 3/	155.5	3.1	151.2	1.6	139.3	.6	138.5	1.0
Commodity and service group								
All items	157.1	3.7	157.4	2.7	149.6	2.3	152.0	2.8
Commodities	139.3	3.5	141.1	1.4	136.2	1.8	141.5	1.9
Food and beverages	153.0	4.0	156.1	3.2	141.5	1.9	154.2	3.6
Commodities less food and beverages	130.7	3.1	131.2	.1	132.2	1.6	133.2	.8
Nondurables less food and beverages	123.8	3.3	133.5	.2	130.9	.9	136.6	1.5
Durables	141.7	2.8	126.7	-.1	135.4	2.7	123.1	-.6
Services	177.6	3.9	173.4	3.7	165.2	2.9	163.8	3.7
Medical care services	183.1	2.1	229.9	3.3	223.2	2.1	206.3	4.2
Special indexes								
All items less shelter	147.6	3.8	150.4	2.5	146.6	2.3	147.4	2.5
All items less medical care	155.5	3.8	153.8	2.7	145.4	2.5	149.2	2.8
All items less energy	163.8	3.5	163.7	2.2	155.2	2.0	157.0	2.3
All items less food and energy	167.2	3.3	166.0	2.0	159.2	2.1	157.2	2.1
Energy	122.9	5.3	109.9	8.6	113.9	5.6	118.4	7.2
Commodities less food	132.2	3.1	133.1	.4	133.4	1.7	133.6	.8
Nondurables less food	126.5	3.3	136.1	.7	132.9	1.1	136.7	1.6
Nondurables	138.5	3.7	145.2	1.8	136.7	1.4	145.8	2.6
Services less rent of shelter 5/	169.4	4.1	174.5	4.5	174.2	3.3	164.2	3.5
Services less medical care services	176.9	4.1	168.8	3.7	160.0	3.1	160.2	3.6

See footnotes at end of table.

Table 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and commodity and service group-Continued

(1982-84=100, unless otherwise noted)

Expenditure category	Dallas-Fort Worth, TX		Denver-Boulder, CO		Detroit-Ann Arbor, MI		Honolulu, HI	
	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996
All items	148.8	2.7	153.1	3.5	152.5	2.6	170.7	1.5
All items (1967=100)	466.9	-	510.6	-	453.5	-	469.9	-
Food and beverages	152.8	4.9	142.2	2.0	147.9	3.0	156.6	-.1
Food	150.4	4.7	144.4	2.3	147.3	3.2	156.6	-.3
Food at home	144.5	5.5	149.1	2.3	147.2	3.5	159.5	-1.6
Cereals and bakery products 3/	158.2	.0	179.9	1.6	171.2	.8	170.8	1.4
Meats, poultry, fish, and eggs 3/	139.1	9.4	136.0	6.1	140.6	3.8	135.6	-.3
Meats, poultry, and fish	139.5	8.3	134.3	3.9	141.5	3.3	135.1	-.5
Dairy products 3/	146.0	7.0	135.4	.5	130.7	4.2	139.4	4.2
Fruits and vegetables 3/ 4/	158.4	12.5	169.4	5.2	177.8	8.1	194.9	-3.1
Other food at home 3/	134.6	-1.1	141.6	-1.5	134.7	1.6	165.1	-4.8
Food away from home	159.8	3.8	138.3	2.8	148.9	3.1	150.8	1.1
Alcoholic beverages	178.0	6.4	126.0	.2	154.5	1.2	156.2	2.6
Housing 4/	135.5	2.6	142.6	4.5	145.5	3.5	176.8	1.2
Shelter	139.5	3.3	154.5	5.5	165.7	3.2	193.5	.9
Renters' costs 5/	146.4	3.0	164.6	4.4	163.6	4.3	200.3	1.2
Rent, residential	137.5	3.1	143.9	5.8	152.8	3.2	187.3	.2
Other renters' costs 3/ 6/	157.8	2.9	219.5	1.5	170.4	5.9	235.3	6.5
Homeowners' costs 5/	145.5	3.7	156.0	6.1	169.6	2.8	199.3	.8
Owners' equivalent rent 5/	147.6	4.2	155.4	5.9	170.4	2.9	200.4	.8
Fuel and other utilities 4/	128.4	-.1	120.5	-.4	121.2	4.3	133.8	4.2
Fuels	123.7	-2.1	94.1	-6.5	106.1	4.4	115.9	3.9
Fuel oil and other household fuel commodities 3/	108.8	12.7	102.6	.9	98.1	15.3	NA	-
Fuel oil 3/	NA	-	NA	-	104.0	21.9	NA	-
Other household fuel commodities 3/ 7/	114.0	12.8	133.4	.9	112.1	8.3	NA	.0
Gas (piped) and electricity (energy services)	123.2	-2.1	93.8	-6.8	109.0	4.0	115.2	4.0
Electricity	122.8	-1.8	101.6	-.3	132.4	1.2	114.5	3.1
Utility (piped) gas	125.2	-2.9	83.9	-15.0	92.1	7.3	114.7	16.0
Household furnishings and operation 4/	135.2	2.8	117.3	3.6	114.9	3.6	146.4	.3
Apparel and upkeep	141.9	-4.0	103.6	5.1	131.7	-3.8	118.5	.9
Apparel commodities 3/ 6/	135.6	-2.9	101.1	5.3	130.2	-4.1	115.0	.9
Men's and boys' apparel 3/	117.7	-3.1	96.1	-.9	126.3	3.8	149.0	-2.0
Women's and girls' apparel 3/	123.0	-5.3	103.1	14.7	130.0	-12.2	95.2	.6
Footwear 3/	167.3	18.2	140.6	7.7	143.1	5.0	96.8	2.5

See footnotes at end of table.

ble 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and
mmodity and service group-Continued

1982-84=100, unless otherwise noted)

	Dallas-Fort Worth, TX		Denver-Boulder, CO		Detroit-Ann Arbor, MI		Honolulu, HI	
	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996
Expenditure category								
Transportation	142.1	1.9	162.7	3.7	148.0	3.1	167.0	2.8
Private transportation	142.9	2.1	159.4	4.0	146.1	3.0	168.2	3.3
Motor fuel	106.1	5.5	105.0	5.7	106.0	9.7	131.9	5.1
Gasoline	105.6	5.3	104.8	5.5	105.9	9.9	134.9	5.1
Gasoline, unleaded regular	102.5	6.0	100.9	6.2	106.0	10.1	141.4	5.7
Gasoline, unleaded midgrade 8/	108.0	3.9	105.6	5.8	120.6	8.7	105.9	5.0
Gasoline, unleaded premium	106.9	4.5	110.3	5.3	108.3	9.3	123.8	4.6
Public transportation 3/	137.7	-1.9	189.7	1.7	187.5	5.0	156.0	-1.5
Medical care	224.6	3.6	250.8	2.1	213.7	2.2	215.0	2.5
Entertainment 9/	162.8	8.3	152.1	2.7	154.8	2.9	147.8	2.5
Other goods and services 4/	195.6	5.3	206.3	1.9	217.5	3.2	226.5	4.5
Personal care 3/	164.9	3.9	160.3	.4	133.4	4.1	169.4	2.2
Commodity and service group								
l items	148.8	2.7	153.1	3.5	152.5	2.6	170.7	1.5
Commodities	140.1	2.8	131.8	3.0	137.5	2.2	146.3	.8
Food and beverages	152.8	4.9	142.2	2.0	147.9	3.0	156.6	-.1
Commodities less food and beverages	132.8	1.9	125.6	3.8	131.5	1.7	138.1	1.7
Nondurables less food and beverages	132.5	1.7	127.1	4.0	135.0	1.6	142.2	1.9
Durables	134.5	2.0	123.5	3.4	123.5	2.0	131.8	1.4
Services	157.2	2.7	171.0	3.8	168.9	3.1	192.1	2.0
Medical care services	236.9	3.8	254.5	2.6	222.2	2.1	216.7	2.4
Special indexes								
l items less shelter	152.9	2.6	152.5	2.6	149.3	2.5	161.8	1.8
l items less medical care	144.7	2.7	147.6	3.7	149.5	2.7	168.3	1.5
l items less energy	155.3	2.9	159.1	3.7	159.0	2.4	175.5	1.4
l items less food and energy	156.4	2.6	161.9	3.9	161.7	2.2	180.5	1.7
ergy	114.0	1.3	98.5	-.4	107.5	7.0	124.4	4.5
mmodities less food	134.3	2.1	125.4	3.6	132.5	1.7	138.9	1.7
ndurables less food	135.0	2.1	126.6	3.6	136.1	1.5	143.0	1.9
ndurables	142.9	3.2	134.7	2.9	141.6	2.2	150.1	.7
rvices less rent of shelter 5/	182.5	1.8	194.3	2.4	176.9	2.9	192.9	3.3
rvices less medical care services	150.7	2.6	163.6	3.9	164.4	3.2	189.7	2.0

Table 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and commodity and service group-Continued

(1982-84=100, unless otherwise noted)

Expenditure category	Houston-Galveston-Brazoria, TX		Kansas City, MO-KS		Los Angeles-Anaheim-Riverside, CA		Miami-Fort Lauderdale, FL	
	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 199 to 1996
All items	142.7	2.1	151.6	4.3	157.5	1.9	153.7	3.2
All items (1967=100) 11/	457.7	-	450.1	-	465.3	-	247.6	-
Food and beverages	142.9	1.9	154.1	6.6	157.8	2.9	161.4	2.7
Food	142.6	2.1	154.8	6.9	156.0	2.9	161.4	2.7
Food at home	150.1	1.6	151.5	7.5	162.8	3.4	159.3	3.5
Cereals and bakery products 3/	162.0	2.1	177.0	6.8	174.0	2.9	162.2	5.1
Meats, poultry, fish, and eggs 3/	139.6	5.2	142.1	8.5	152.6	4.5	142.0	4.3
Meats, poultry, and fish	141.3	4.7	138.9	6.5	149.4	4.0	143.4	4.0
Dairy products 3/	139.1	8.3	160.8	11.7	166.4	7.8	147.8	8.2
Fruits and vegetables 3/ 4/	177.0	-5.8	157.0	10.5	197.1	2.5	231.3	1.6
Other food at home 3/	147.3	.2	142.0	2.7	144.3	1.1	133.7	.8
Food away from home	130.8	2.1	159.3	5.1	146.2	1.8	166.6	2.1
Alcoholic beverages	143.7	.6	146.6	2.4	174.8	2.9	158.8	3.3
Housing 4/	123.9	2.3	142.4	4.2	154.1	1.2	145.1	3.7
Shelter	137.4	2.6	154.1	3.8	164.0	1.5	153.6	3.2
Renters' costs 5/	143.1	2.9	167.0	4.4	173.1	2.2	156.3	3.0
Rent, residential	132.1	2.2	147.9	3.7	157.3	1.0	145.6	3.2
Other renters' costs 3/ 6/	242.7	5.1	206.0	6.4	213.5	6.7	215.2	2.7
Homeowners' costs 5/	132.7	2.8	153.9	3.8	173.4	1.3	158.0	3.3
Owners' equivalent rent 5/	127.3	3.2	152.7	3.8	173.1	1.1	155.6	3.0
Fuel and other utilities 4/	105.4	5.4	132.5	5.2	149.1	-.1	118.2	4.5
Fuels	98.4	5.5	115.5	6.2	145.1	-2.6	109.7	4.3
Fuel oil and other household fuel commodities 3/	NA	-	107.7	26.9	117.7	2.0	159.0	2.6
Fuel oil 3/	NA	-	106.0	21.7	NA	-	NA	-
Other household fuel commodities 3/ 7/	117.8	4.4	130.3	28.4	117.7	1.9	143.6	2.6
Gas (piped) and electricity (energy services)	98.3	5.6	116.2	6.0	145.5	-2.6	108.9	4.3
Electricity	102.4	4.9	107.3	-7.4	163.7	-3.0	107.1	4.1
Utility (piped) gas	87.2	8.1	126.3	19.8	128.4	-1.8	156.4	10.3
Household furnishings and operation 4/	109.2	-.8	123.8	4.2	121.7	1.1	140.4	5.1
Apparel and upkeep	137.7	-.4	129.6	3.0	126.0	-.6	146.0	-.7
Apparel commodities 3/ 6/	137.3	-.3	125.8	3.5	121.9	-.9	137.8	-1.4
Men's and boys' apparel 3/	163.6	1.2	129.8	-3.8	126.6	4.3	137.7	-2.3
Women's and girls' apparel 3/	132.5	-5.6	125.9	1.2	114.7	-2.5	147.0	-2.3
Footwear 3/	124.5	7.0	126.6	7.5	113.8	-1.2	139.5	.9

See footnotes at end of table.

ble 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and ommodity and service group-Continued

.982-84=100, unless otherwise noted)

	Houston-Galveston-Brazoria, TX		Kansas City, MO-KS		Los Angeles-Anaheim-Riverside, CA		Miami-Fort Lauderdale, FL	
	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996
Expenditure category								
Transportation	140.4	2.5	137.6	3.1	144.3	1.4	144.3	3.2
Private transportation	140.0	2.7	136.5	3.5	140.1	1.4	144.1	3.4
Motor fuel	104.8	5.4	102.7	10.9	104.4	1.4	114.2	5.9
Gasoline	104.8	5.2	102.6	10.9	102.8	.5	114.0	5.9
Gasoline, unleaded regular	104.4	5.6	98.7	11.4	100.9	.0	111.7	6.8
Gasoline, unleaded midgrade 8/	107.8	4.8	125.9	10.1	100.7	2.4	108.8	5.2
Gasoline, unleaded premium	102.1	4.9	105.7	9.8	103.9	-1.5	115.5	4.8
Public transportation 3/	179.9	-.3	161.3	-3.5	201.6	1.2	143.6	-.4
Medical care	222.6	2.3	212.2	1.8	228.9	3.2	214.4	5.6
Entertainment 9/	160.4	2.0	169.1	5.4	145.8	3.2	146.1	4.1
Other goods and services 4/	197.6	2.2	221.4	6.2	232.8	3.2	175.0	3.1
Personal care 3/	122.0	.8	134.5	6.6	163.8	1.9	100.0	-4.2
Commodity and service group								
l items	142.7	2.1	151.6	4.3	157.5	1.9	153.7	3.2
Commodities	135.0	1.4	142.9	5.2	140.2	2.1	147.4	2.6
Food and beverages	142.9	1.9	154.1	6.6	157.8	2.9	161.4	2.7
Commodities less food and beverages	130.0	1.1	136.7	4.5	128.9	1.5	137.4	2.5
Nondurables less food and beverages	130.4	1.5	138.6	5.6	132.5	1.4	131.5	1.9
Durables	129.2	.6	132.2	3.0	123.3	1.6	146.5	3.2
Services	151.2	2.6	160.9	3.5	172.9	1.7	159.6	3.8
Medical care services	NA	-	NA	-	231.1	2.7	219.8	6.0
Special indexes								
l items less shelter	144.0	1.8	151.4	4.5	155.9	2.0	153.7	3.2
l items less medical care	137.9	2.1	147.8	4.6	153.6	1.7	150.1	3.0
l items less energy	149.6	1.8	158.2	4.0	161.9	2.0	158.5	3.1
l items less food and energy	151.1	1.7	159.0	3.4	163.4	1.8	157.7	3.1
rgy	102.0	5.5	108.8	8.4	118.2	-.5	110.3	5.1
modities less food	130.6	1.1	137.0	4.4	131.3	1.5	138.8	2.5
ndurables less food	130.9	1.4	138.9	5.3	136.1	1.6	134.0	2.1
durables	137.0	1.7	146.3	6.1	145.9	2.2	147.7	2.4
vices less rent of shelter 5/	164.6	2.5	173.7	3.2	191.8	1.9	171.5	4.6
vices less medical care services	143.2	2.8	155.0	3.7	168.0	1.6	153.8	3.5

footnotes at end of table.

Table 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and commodity and service group-Continued

(1982-84=100, unless otherwise noted)

Expenditure category	Milwaukee, WI		Minneapolis-St. Paul, MN-WI		New Orleans, LA 10/ 12/		N.Y.-Northern N.J.-Long Island, NY-NJ-CT	
	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996
All items	154.7	2.5	151.9	3.3	138.4	3.7	166.9	2.9
All items (1967=100)	477.7	-	477.4	-	138.4	-	482.5	-
Food and beverages	151.9	3.6	158.8	4.2	136.5	4.0	159.7	2.4
Food	152.7	3.6	156.4	4.1	136.4	4.1	159.3	2.3
Food at home	153.8	3.3	155.0	4.9	135.2	5.5	160.7	2.4
Cereals and bakery products 3/	194.0	7.7	169.3	5.2	130.0	2.5	184.0	3.4
Meats, poultry, fish, and eggs 3/	153.5	2.5	148.0	7.4	141.4	8.2	151.5	2.2
Meats, poultry, and fish	154.7	1.7	149.8	6.8	142.6	7.8	152.1	1.5
Dairy products 3/	125.8	4.2	154.1	10.9	136.2	14.9	135.7	4.5
Fruits and vegetables 3/ 4/	159.8	.9	192.2	2.5	155.1	1.6	189.7	3.1
Other food at home 3/	143.6	2.4	135.6	1.6	118.3	3.0	151.2	.1
Food away from home	149.5	3.7	158.1	2.7	137.6	2.3	160.8	2.1
Alcoholic beverages	144.7	3.2	179.9	5.0	137.1	2.3	163.3	3.9
Housing 4/	154.4	1.4	138.0	4.0	122.8	5.1	167.7	2.6
Shelter	185.8	2.0	150.6	3.8	121.9	4.8	193.1	2.5
Renters' costs 5/	178.1	1.2	160.7	4.8	115.2	4.2	198.8	3.1
Rent, residential	163.3	1.2	148.3	3.6	117.7	4.1	178.3	2.8
Other renters' costs 3/ 6/	192.6	1.2	179.4	7.4	107.3	4.2	247.6	4.0
Homeowners' costs 5/	197.5	2.2	155.9	3.6	124.0	4.9	199.9	2.3
Owners' equivalent rent 5/	198.3	2.2	157.1	3.7	123.6	5.1	200.8	2.3
Fuel and other utilities 4/	104.4	1.9	119.5	5.5	129.0	5.6	117.4	3.7
Fuels	89.2	1.0	109.5	7.7	128.7	10.0	116.3	5.1
Fuel oil and other household fuel commodities 3/	90.8	10.1	95.4	21.1	NA	-	105.2	12.5
Fuel oil 3/	89.9	11.8	103.2	18.1	NA	-	104.7	12.8
Other household fuel commodities 3/ 7/	126.6	4.6	111.7	24.5	125.9	.6	124.6	10.4
Gas (piped) and electricity (energy services)	92.4	.2	111.9	7.3	128.8	10.2	124.9	3.1
Electricity	97.8	-2.0	136.5	.7	127.6	6.9	128.3	2.0
Utility (piped) gas	87.7	2.5	96.6	16.2	133.2	24.0	119.3	5.6
Household furnishings and operation 4/	115.2	-2.1	120.3	3.5	119.4	5.7	133.5	1.7
Apparel and upkeep	123.2	1.5	143.1	-.3	202.7	.2	127.7	1.3
Apparel commodities 3/ 6/	119.1	1.1	141.3	-.5	210.3	.1	123.2	1.3
Men's and boys' apparel 3/	110.1	-1.9	159.1	-.3	141.5	2.1	117.6	2.3
Women's and girls' apparel 3/	123.3	1.8	98.7	-6.4	199.7	-1.1	120.7	1.9
Footwear 3/	130.4	3.5	103.9	-6.6	113.2	-11.0	130.3	-3.0

See footnotes at end of table.

Table 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and commodity and service group-Continued

(1982-84=100, unless otherwise noted)

	Milwaukee, WI		Minneapolis-St. Paul, MN-WI		New Orleans, LA 10/ 12/		N.Y.-Northern N.J.-Long Island, NY-NJ-CT	
	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996
Expenditure category								
Transportation	141.6	3.0	141.9	2.4	131.0	3.7	152.4	4.5
Private transportation	136.6	2.0	135.7	1.9	132.1	3.5	145.0	3.4
Motor fuel	109.7	6.7	102.2	9.8	135.9	3.6	100.9	4.6
Gasoline	108.5	6.5	103.2	10.1	134.3	3.3	100.7	4.6
Gasoline, unleaded regular	110.8	6.7	102.8	10.2	132.9	3.3	99.4	5.5
Gasoline, unleaded midgrade 8/	115.2	6.3	111.4	9.9	102.5	3.3	103.8	3.7
Gasoline, unleaded premium	101.7	5.5	112.0	10.0	130.9	3.4	102.7	3.4
Public transportation 3/	222.7	13.4	221.9	6.6	120.1	6.0	185.2	9.4
Medical care	220.1	3.2	215.5	2.7	175.1	2.0	235.4	3.8
Entertainment 9/	130.7	1.6	165.1	5.0	145.9	3.0	163.5	3.0
Other goods and services 4/	216.6	4.6	213.1	2.8	138.8	3.8	221.7	3.8
Personal care 3/	135.6	4.6	124.6	.8	119.2	-.3	166.6	2.6
Commodity and service group								
All items	154.7	2.5	151.9	3.3	138.4	3.7	166.9	2.9
Commodities	137.2	2.0	144.4	3.0	144.9	3.0	144.7	2.5
Food and beverages	151.9	3.6	158.8	4.2	136.5	4.0	159.7	2.4
Commodities less food and beverages	128.5	1.0	136.1	2.3	150.3	2.5	132.8	2.6
Nondurables less food and beverages	131.9	3.1	141.6	2.8	171.6	1.4	132.8	3.3
Durables	124.5	-1.6	130.5	1.8	117.2	4.7	132.7	1.4
Services	171.8	2.7	159.8	3.6	132.7	4.3	186.7	3.2
Medical care services	223.2	3.9	222.8	3.4	173.9	2.3	240.4	3.7
Special indexes								
All items less shelter	144.6	2.6	153.4	3.2	143.9	3.4	157.3	3.1
All items less medical care	151.6	2.4	148.4	3.4	135.4	3.8	163.6	2.9
All items less energy	162.7	2.3	158.2	2.9	138.9	3.4	173.3	2.8
All items less food and energy	164.9	2.1	158.8	2.7	139.4	3.2	176.9	2.9
Energy	98.9	3.7	106.5	8.8	131.7	7.2	110.4	4.9
Commodities less food	129.2	1.2	138.0	2.4	149.6	2.5	134.1	2.7
Nondurables less food	132.5	3.2	144.3	3.0	168.7	1.4	134.6	3.3
Nondurables	142.3	3.4	150.5	3.4	153.8	2.6	147.5	2.7
Services less rent of shelter 5/	163.4	3.5	175.2	3.3	142.4	3.9	187.3	4.0
Services less medical care services	167.8	2.6	153.8	3.6	127.7	4.7	182.6	3.2

See footnotes at end of table.

able 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and ommodity and service group-Continued

1982-84=100, unless otherwise noted)

Expenditure category	Phil.-Wilmington-Trenton, PA-NJ-DE-MD 13/ Annual average 1996	Phil.-Wilmington-Trenton, PA-NJ-DE-MD 13/ Percent change from 1995 to 1996	Pittsburgh-Beaver Valley, PA 14/ Annual average 1996	Pittsburgh-Beaver Valley, PA 14/ Percent change from 1995 to 1996	Portland-Vancouver, OR-WA Annual average 1996	Portland-Vancouver, OR-WA Percent change from 1995 to 1996
ll items	162.8	2.6	153.2	2.7	158.6	3.5
ll items (1967=100)	470.4	-	467.5	-	464.4	-
Food and beverages	152.2	2.3	148.9	3.7	143.1	4.4
Food	151.1	2.4	148.1	4.0	143.2	4.7
Food at home	159.7	2.9	148.5	4.9	142.1	8.2
Cereals and bakery products 3/	186.2	4.3	159.4	5.4	187.6	8.5
Meats, poultry, fish, and eggs 3/	147.3	2.5	139.2	5.0	123.4	6.2
Meats, poultry, and fish	147.6	1.7	140.8	4.4	123.4	4.8
Dairy products 3/	134.9	3.6	138.1	8.1	127.8	7.4
Fruits and vegetables 3/ 4/	187.5	2.2	166.2	4.3	177.6	16.0
Other food at home 3/	155.0	2.8	147.4	3.1	127.9	4.3
Food away from home	136.4	1.5	147.4	2.1	145.8	.5
Alcoholic beverages	165.7	-.1	159.4	.7	142.3	1.2
Housing 4/	162.4	2.5	153.1	2.0	158.3	2.4
Shelter	189.6	2.8	169.0	2.5	177.1	2.9
Renters' costs 5/	210.5	4.6	167.4	3.3	174.6	2.4
Rent, residential	171.7	2.1	149.7	1.9	168.6	2.7
Other renters' costs 3/ 6/	279.1	8.1	198.2	5.6	190.1	1.5
Homeowners' costs 5/	192.8	2.0	168.9	2.3	187.4	3.4
Owners' equivalent rent 5/	193.7	2.0	169.3	2.4	187.3	3.3
Fuel and other utilities 4/	127.8	3.1	139.2	.9	130.8	3.3
Fuels	118.1	3.0	130.8	-1.4	109.4	3.6
Fuel oil and other household fuel commodities 3/	105.1	16.8	115.5	6.4	101.9	10.4
Fuel oil 3/	98.6	16.7	90.0	12.2	101.9	11.2
Other household fuel commodities 3/ 7/	NA	-	146.0	2.7	161.5	-
Gas (piped) and electricity (energy services)	133.2	1.1	132.6	-1.6	135.9	3.0
Electricity	152.9	1.5	138.3	-.9	156.1	5.3
Utility (piped) gas	104.8	-.2	128.0	-2.2	86.1	-6.3
Household furnishings and operation 4/	120.9	.5	125.9	1.6	120.8	-1.9
Apparel and upkeep	103.8	1.7	134.6	-.5	124.5	.9
Apparel commodities 3/ 6/	98.6	1.5	131.5	-.9	122.0	.6
Men's and boys' apparel 3/	117.5	6.0	118.0	-1.7	147.0	6.4
Women's and girls' apparel 3/	73.2	-3.6	139.7	3.8	103.1	-1.5
Footwear 3/	114.9	5.9	114.5	-2.1	124.0	3.2

e footnotes at end of table.

16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and
dity and service group-Continued

-84=100, unless otherwise noted)

	Phil.-Wilmington-Trenton, PA-NJ-DE-MD 13/		Pittsburgh-Beaver Valley, PA 14/		Portland-Vancouver, OR-WA	
	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996
Expenditure category						
nsportation	151.5	1.9	129.2	1.3	147.0	3.6
rivate transportation	149.4	2.0	128.1	1.4	147.3	4.2
Motor fuel	106.6	3.2	105.2	3.2	119.8	9.6
Gasoline	104.8	2.4	105.0	3.2	120.6	9.9
Gasoline, unleaded regular	104.2	3.3	102.4	4.6	117.6	10.2
Gasoline, unleaded midgrade 8/	104.1	2.2	113.3	3.2	106.3	-
Gasoline, unleaded premium	100.1	2.0	104.7	2.5	118.2	8.4
ublic transportation 3/	173.9	-.2	136.8	-1.5	149.1	-3.2
ical care	242.2	4.2	225.4	6.0	211.8	6.9
ertainment 9/	178.2	6.9	163.2	4.3	168.8	2.2
er goods and services 4/	232.9	2.6	202.9	5.6	235.6	8.5
ersonal care 3/	189.5	.3	121.5	-.6	170.3	4.5
Commodity and service group						
tems	162.8	2.6	153.2	2.7	158.6	3.5
modities	135.6	2.2	139.2	2.6	137.1	3.5
ood and beverages	152.2	2.3	148.9	3.7	143.1	4.4
ommodities less food and beverages	125.0	2.0	132.6	1.7	134.3	2.8
Nondurables less food and beverages	124.7	2.9	134.7	2.0	132.0	4.8
Durables	126.9	1.0	129.0	1.1	135.8	-.7
vices	191.7	3.0	169.0	2.9	180.3	3.6
edical care services	248.1	4.9	224.5	5.3	203.3	4.4
Special indexes						
tems less shelter	155.2	2.5	149.0	2.8	152.2	3.9
tems less medical care	159.0	2.5	149.1	2.5	155.4	3.3
tems less energy	169.6	2.5	157.8	2.9	164.5	3.4
tems less food and energy	174.7	2.6	160.5	2.6	169.7	3.0
y	113.2	3.0	120.2	.7	113.1	6.6
dities less food	126.7	2.0	133.8	1.7	134.5	2.8
rables less food	127.3	2.7	136.3	1.9	132.4	4.5
rables	138.8	2.5	142.2	2.9	137.1	4.6
ces less rent of shelter 5/	199.2	3.1	174.0	3.1	187.5	4.4
ces less medical care services	187.2	2.7	163.8	2.6	178.2	3.6

ootnotes at end of table.

able 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and ommodity and service group-Continued

1982-84=100, unless otherwise noted)

Expenditure category	St. Louis-East St. Louis, MO-IL 14/		San Diego, CA		San Francisco-Oakland-San Jose, CA 13/	
	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996
ll items	149.6	3.0	160.9	2.6	155.1	2.3
ll items (1967=100)	444.3	-	544.0	-	476.7	-
Food and beverages	151.2	2.9	157.0	3.9	155.3	2.4
Food	150.1	2.9	155.7	3.2	155.7	2.4
Food at home	146.9	2.5	157.4	3.6	160.5	2.8
Cereals and bakery products 3/	154.8	1.3	190.7	5.5	173.3	3.5
Meats, poultry, fish, and eggs 3/	130.9	4.9	146.2	3.8	149.7	3.8
Meats, poultry, and fish	132.6	5.2	146.1	3.8	143.9	2.5
Dairy products 3/	146.4	5.5	154.2	4.5	151.5	9.5
Fruits and vegetables 3/ 4/	176.9	3.6	164.1	5.9	187.3	-.4
Other food at home 3/	144.0	-1.4	149.4	-.1	150.1	.8
Food away from home	155.5	3.0	152.1	1.7	150.2	2.0
Alcoholic beverages	158.3	2.5	167.4	10.3	152.1	2.2
Housing 4/	142.6	2.2	159.9	2.6	157.4	1.9
Shelter	159.4	2.2	173.0	4.0	172.1	3.1
Renters' costs 5/	165.3	2.9	194.5	6.2	195.6	3.8
Rent, residential	143.9	2.2	156.0	1.4	174.5	2.6
Other renters' costs 3/ 6/	200.9	4.2	326.9	22.0	201.8	7.7
Homeowners' costs 5/	166.6	1.9	184.3	2.6	185.9	2.7
Owners' equivalent rent 5/	167.8	1.9	184.5	2.2	186.5	2.6
Fuel and other utilities 4/	123.0	5.2	119.7	.9	142.8	-3.6
Fuels	114.6	8.6	94.8	-3.1	139.7	-9.5
Fuel oil and other household fuel commodities 3/	95.9	16.2	117.8	-1.7	147.2	-2.0
Fuel oil 3/	88.4	12.5	172.8	13.5	112.6	14.2
Other household fuel commodities 3/ 7/	119.1	19.1	108.3	-2.0	167.8	-3.2
Gas (piped) and electricity (energy services)	117.9	8.0	94.2	-3.2	139.7	-9.6
Electricity	139.9	-1.1	91.2	-4.4	175.4	-2.8
Utility (piped) gas	97.4	23.3	106.6	-.6	100.2	-20.7
Household furnishings and operation 4/	120.1	-.6	148.3	-2.0	116.6	.3
Apparel and upkeep	122.2	2.5	129.8	-2.6	116.9	2.5
Apparel commodities 3/ 6/	119.8	2.7	124.0	-3.2	112.0	2.8
Men's and boys' apparel 3/	134.7	9.2	89.0	-6.2	106.5	-1.8
Women's and girls' apparel 3/	103.0	-3.9	153.3	-3.2	92.9	5.7
Footwear 3/	95.1	4.5	119.9	2.5	147.0	10.4

See footnotes at end of table.

le 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and mmodity and service group-Continued

982-84=100, unless otherwise noted)

	St. Louis-East St. Louis, MO-IL 14/		San Diego, CA		San Francisco-Oakland-San Jose, CA 13/	
	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996
Expenditure category						
ransportation	141.8	4.3	150.8	2.2	133.5	3.5
Private transportation	142.7	4.0	146.5	2.5	127.7	2.7
Motor fuel	109.1	14.7	111.4	1.7	113.3	4.9
Gasoline	108.1	14.5	111.6	1.8	111.8	4.5
Gasoline, unleaded regular	104.3	15.2	114.1	1.7	109.2	5.3
Gasoline, unleaded midgrade 8/	124.5	14.9	100.7	1.6	107.6	4.2
Gasoline, unleaded premium	108.8	12.2	114.3	2.1	112.2	2.7
Public transportation 3/	141.4	8.0	200.3	.3	182.1	7.1
Medical care	218.4	4.0	231.6	5.3	214.5	2.6
ntertainment 9/	160.8	3.5	163.2	3.0	166.8	.4
ther goods and services 4/	186.3	3.3	219.0	.9	227.8	3.3
Personal care 3/	104.9	-4.3	158.9	1.6	160.1	2.4
Commodity and service group						
items	149.6	3.0	160.9	2.6	155.1	2.3
ommodities	137.7	3.1	145.2	1.8	138.1	2.1
Food and beverages	151.2	2.9	157.0	3.9	155.3	2.4
Commodities less food and beverages	129.3	3.2	137.9	.2	126.4	1.8
Nondurables less food and beverages	131.0	5.7	133.9	.2	129.0	2.5
Durables	125.7	-.2	142.7	.2	122.0	.7
rvices	162.9	2.8	175.3	3.1	169.6	2.4
Medical care services	223.0	4.3	237.2	5.3	215.6	3.0
Special indexes						
items less shelter	147.5	3.4	158.1	1.9	150.2	1.9
items less medical care	145.6	2.9	157.3	2.4	152.3	2.3
items less energy	155.1	2.4	166.8	2.6	159.1	2.6
items less food and energy	156.3	2.2	169.5	2.6	160.1	2.6
rgy	112.1	11.4	102.9	-.3	122.3	-2.6
modities less food	130.7	3.2	139.3	.9	127.9	1.8
durables less food	132.8	5.4	136.3	1.3	130.7	2.5
durables	141.7	4.2	146.2	2.2	142.7	2.4
vices less rent of shelter 5/	170.5	3.5	188.9	2.6	174.8	1.7
vices less medical care services	157.0	2.7	170.9	3.0	166.6	2.3

footnotes at end of table.

able 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and ommodity and service group-Continued

1982-84=100, unless otherwise noted)

Expenditure category	Seattle-Tacoma, WA 15/ Annual average 1996	Seattle-Tacoma, WA 15/ Percent change from 1995 to 1996	Tampa-St. Petersburg-Clearwater, FL 12/ 16/ Annual average 1996	Tampa-St. Petersburg-Clearwater, FL 12/ 16/ Percent change from 1995 to 1996	Washington, DC-MD-VA 2/ Annual average 1996	Washington, DC-MD-VA 2/ Percent change from 1995 to 1996
ll items	157.5	3.4	131.6	1.5	159.6	2.8
ll items (1967=100)	480.1	-	131.6	-	471.1	-
Food and beverages	155.5	2.3	129.1	2.9	152.5	3.6
Food	155.8	2.4	128.3	2.6	153.0	3.7
Food at home	154.9	4.2	127.9	3.1	157.8	4.2
Cereals and bakery products 3/	174.1	5.1	146.0	7.2	180.4	2.3
Meats, poultry, fish, and eggs 3/	133.8	6.1	121.8	-.7	146.6	8.3
Meats, poultry, and fish	132.3	5.3	121.1	-1.3	147.0	8.1
Dairy products 3/	143.9	7.1	129.4	10.9	155.3	3.3
Fruits and vegetables 3/ 4/	207.4	3.2	140.1	1.6	181.5	1.3
Other food at home 3/	140.4	1.5	119.4	4.7	145.2	3.7
Food away from home	159.0	1.1	128.7	2.7	148.7	2.5
Alcoholic beverages	152.4	1.0	134.9	4.3	149.4	2.4
Housing 4/	156.9	3.6	126.6	2.3	156.0	1.9
Shelter	171.9	3.2	134.3	2.9	170.7	2.8
Renters' costs 5/	179.5	2.8	121.7	2.9	185.0	2.4
Rent, residential	163.0	2.8	129.1	2.3	169.0	2.3
Other renters' costs 3/ 6/	228.8	3.0	99.5	5.3	193.7	2.5
Homeowners' costs 5/	176.8	3.3	139.1	2.9	172.4	2.8
Owners' equivalent rent 5/	176.9	3.3	139.4	3.0	172.9	2.8
Fuel and other utilities 4/	118.6	3.5	118.2	1.5	127.2	2.5
Fuels	115.3	2.9	110.5	-.2	113.8	4.6
Fuel oil and other household fuel commodities 3/	102.5	11.3	118.4	1.8	102.0	9.2
Fuel oil 3/	101.9	11.4	NA	-	95.4	10.2
Other household fuel commodities 3/ 7/	NA	-	107.8	1.8	168.8	6.2
Gas (piped) and electricity (energy services)	139.5	1.8	110.1	-.4	121.8	4.1
Electricity	155.2	2.4	109.1	-.6	132.1	5.9
Utility (piped) gas	88.1	-1.0	153.3	12.4	106.2	.8
Household furnishings and operation 4/	143.4	5.6	112.3	.9	133.7	-2.1
Apparel and upkeep	125.7	3.7	115.1	-14.2	140.4	-.4
Apparel commodities 3/ 6/	121.3	3.5	113.0	-15.4	135.7	-.7
Men's and boys' apparel 3/	127.0	5.8	121.9	2.3	154.1	4.1
Women's and girls' apparel 3/	90.7	-2.3	110.9	-25.0	131.0	2.2
Footwear 3/	131.6	3.2	95.9	4.1	127.2	-5.7

ee footnotes at end of table.

e 16A. Consumer Price Index for All Urban Consumers (CPI-U): Selected areas, annual averages, by expenditure category and odity and service group-Continued

2-84=100, unless otherwise noted)

	Seattle-Tacoma, WA 15/		Tampa-St. Petersburg-Clearwater, FL 12/ 16/		Washington, DC-MD-VA 2/	
	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996	Annual average 1996	Percent change from 1995 to 1996
Expenditure category						
ansportation	144.0	3.2	127.3	1.9	144.5	3.1
Private transportation	148.7	3.5	128.9	2.6	145.5	3.0
Motor fuel	127.8	7.1	127.7	6.6	111.4	7.7
Gasoline	130.0	7.2	126.3	6.5	110.9	7.9
Gasoline, unleaded regular	131.3	6.6	122.8	7.3	109.1	8.7
Gasoline, unleaded midgrade 8/	NA	-	111.2	5.7	105.6	7.0
Gasoline, unleaded premium	134.7	7.2	130.4	5.3	109.6	6.2
Public transportation 3/	113.8	.3	105.2	-9.2	143.5	3.6
dical care	217.4	3.8	188.7	4.0	220.9	4.1
tertainment 9/	149.8	1.5	121.9	4.9	169.1	3.7
her goods and services 4/	210.7	6.4	156.1	5.8	227.8	6.0
Personal care 3/	122.4	3.7	160.4	8.9	166.0	4.4
Commodity and service group						
items	157.5	3.4	131.6	1.5	159.6	2.8
mmodities	143.4	3.6	122.0	-.4	141.7	2.2
Food and beverages	155.5	2.3	129.1	2.9	152.5	3.6
Commodities less food and beverages	136.8	4.6	117.6	-2.6	135.8	1.3
Nondurables less food and beverages	136.0	5.0	124.8	-3.9	135.1	2.9
Durables	137.9	4.0	108.5	-.5	137.9	-1.0
rvices	171.5	3.3	140.6	3.1	176.0	3.2
Medical care services	216.6	3.9	198.9	4.1	223.2	4.7
Special indexes						
items less shelter	152.8	3.5	130.8	1.1	155.7	2.8
items less medical care	154.6	3.4	128.1	1.3	156.4	2.6
items less energy	161.9	3.3	132.7	1.4	165.6	2.6
items less food and energy	163.3	3.5	133.6	1.1	168.6	2.4
rgy	122.6	5.4	118.1	3.0	112.0	6.2
modities less food	137.3	4.3	119.0	-1.9	136.4	1.3
durables less food	136.7	4.6	126.2	-2.8	135.9	2.9
durables	145.3	3.5	127.1	-.4	143.6	3.2
vices less rent of shelter 5/	176.0	3.4	145.9	3.2	188.7	3.6
vices less medical care services	168.0	3.2	135.0	3.0	172.0	3.1

footnotes at end of table.

1/ Starting in January, 1998, indexes for the city of Atlanta will be published on a bi-monthly basis.

2/ Indexes for the cities of Washington and Baltimore will no longer be published separately after December, 1997. Beginning in January, 1998 the two cities will be published as a Washington-Baltimore combined metropolitan area.

3/ This index series will no longer appear after December, 1997 below the U.S. city average level.

4/ This index series will undergo a change in composition in January, 1998.

5/ Indexes on a November 1982=100 base in Anchorage, Baltimore, Boston, Cincinnati, Denver, Miami, Milwaukee, Portland, St. Louis, San Diego, Seattle, and Washington. Indexes on a December 1982=100 base in Atlanta, Buffalo, Chicago, Cleveland, Dallas, Detroit, Honolulu, Houston, Kansas City, Los Angeles, Minneapolis, New York, Philadelphia, Pittsburgh, and San Francisco.

6/ This index series will no longer appear in its present form after December, 1997 for the U.S. city average. See Table X for a comparable index series.

7/ Indexes on a November 1986=100 base in Baltimore, Boston, Cincinnati, Cleveland, Miami, Minneapolis, Portland, St. Louis, San Diego, and Washington. Indexes on a December 1986=100 base in Anchorage, Atlanta, Buffalo, Chicago, Dallas, Denver, Detroit, Honolulu, Houston, Kansas City, Los Angeles, Milwaukee, New York, Philadelphia, Pittsburgh, San Francisco, and Seattle.

8/ Indexes on a December 1993=100 base.

9/ This index series will no longer appear in its present form after December, 1997. See Table X for a comparable index series.

10/ Information for Buffalo and New Orleans will no longer be calculated after January, 1998.

11/ Index on a November 1977=100 base in Miami.

12/ Indexes on a 1987=100 base.

13/ Indexes for the cities of Philadelphia and San Francisco will no longer be published on a monthly basis starting in January, 1998. Beginning in February, 1998 they will be published on a bi-monthly basis.

14/ Indexes for the cities of Pittsburgh and St. Louis will no longer be published on a bi-monthly basis after December, 1997. Beginning in July, 1998 they will be published semi-annually, each January and July.

15/ Starting in February, 1998, indexes for the city of Seattle will be published on a bi-monthly basis.

16/ Starting in July, 1998, indexes for the city of Tampa will be published on a semi-annual basis.

NA/ Data not adequate for publication.

- Data not available.

Source: Bureau of Labor Statistics

Table 2. Relative importance of components in the Consumer Price Indexes: Selected metropolitan areas, November 1986

(Percent of all items)

Expenditure category	Baltimore, Md.		Boston, Mass.		Cincinnati—Hamilton, Ohio—Ky.—Ind.		Cleveland, Ohio		Miami, Fla.	
	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W
All items	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
Food and beverages	16.930	18.460	15.652	18.516	18.879	18.917	19.872	19.696	21.016	17.931
Food	15.727	17.094	13.994	16.640	17.412	17.811	18.025	18.023	18.577	16.694
Food at home	10.646	11.054	7.991	10.052	10.822	10.749	11.289	11.560	8.998	10.268
Cereals and bakery products	1.478	1.594	1.062	1.312	1.573	1.566	1.568	1.577	1.163	1.231
Meats, poultry, fish, and eggs	3.591	3.473	2.666	3.745	3.295	3.167	3.858	4.049	2.951	3.484
Meats, poultry, and fish	3.384	3.253	2.538	3.594	3.128	3.018	3.666	3.849	2.814	3.306
Dairy products	1.217	1.228	1.091	1.213	1.287	1.271	1.373	1.433	1.233	1.482
Fruits and vegetables	1.647	1.797	1.368	1.580	1.677	1.614	1.670	1.616	1.598	1.694
Other food at home	2.711	2.962	1.784	2.201	2.990	3.130	2.819	2.886	2.053	2.377
Food away from home	5.081	6.040	6.003	6.588	6.590	7.063	6.736	6.463	9.579	6.427
Alcoholic beverages	1.203	1.366	1.658	1.876	1.467	1.106	1.847	1.673	2.439	1.237
Housing	42.261	40.803	45.016	44.790	41.027	40.753	41.752	39.027	39.858	40.789
Shelter	27.568	25.750	31.887	31.095	25.219	24.571	25.183	24.052	25.819	26.632
Renters' costs	7.481	8.823	10.299	10.272	7.047	6.121	6.696	6.415	7.661	9.318
Rent, residential	5.611	7.750	7.482	8.838	5.612	4.890	5.006	4.748	6.477	8.389
Other renters' costs	1.870	1.073	2.816	1.433	1.435	1.231	1.690	1.667	1.184	.929
Homeowners' costs	19.897	16.710	21.346	20.582	17.788	18.013	18.301	17.456	17.960	17.050
Owners' equivalent rent	19.625	16.422	20.878	20.288	17.443	17.676	17.947	17.123	17.560	16.622
Fuel and other utilities	6.948	7.606	6.786	7.850	8.447	8.953	7.771	7.551	7.332	8.193
Fuels	4.230	4.675	4.598	5.252	5.185	5.488	4.583	4.433	4.256	4.708
Fuel oil and other household fuel commodities	.603	.455	1.087	.919	.254	.354	.157	.178	.074	.084
Fuel oil	.453	.321	1.007	.825	.184	.259	.077	.062	.008	.005
Other household fuel commodities	.150	.134	.080	.094	.070	.096	.080	.116	.066	.079
Gas (piped) and electricity	3.626	4.220	3.511	4.333	4.931	5.133	4.426	4.254	4.183	4.624
Electricity	2.485	2.876	2.014	2.528	3.409	3.698	2.065	1.895	4.043	4.467
Utility (piped) gas	1.141	1.344	1.497	1.805	1.522	1.435	2.360	2.359	.140	.157
Household furnishings and operation	7.744	7.447	6.343	5.844	7.360	7.230	8.798	7.424	6.707	5.964
Apparel and upkeep	5.901	6.060	5.700	5.441	6.707	6.547	6.182	6.212	6.914	6.267
Apparel commodities	5.391	5.621	5.053	4.749	6.207	6.092	5.737	5.816	6.150	5.438
Men's and boys' apparel	1.565	1.391	1.426	1.363	1.560	1.487	1.917	1.715	1.623	1.238
Women's and girls' apparel	2.266	2.457	2.461	1.907	2.838	2.628	2.295	2.406	2.544	2.493
Footwear	.796	.876	.447	.428	1.020	1.234	1.011	1.179	1.017	.876
Transportation	19.101	19.955	16.132	15.516	18.921	20.230	17.561	21.953	18.023	23.032
Private transportation	17.837	18.899	14.243	14.317	17.692	19.224	16.130	20.429	16.616	21.917
Motor fuel	3.028	3.695	2.244	3.003	3.363	3.750	3.526	4.104	3.245	3.819
Public transportation	1.264	1.055	1.889	1.199	1.229	1.007	1.431	1.524	1.407	1.115
Medical care	4.634	4.378	5.207	4.874	5.001	4.339	4.590	3.647	5.505	4.481
Entertainment	4.327	3.318	4.633	4.084	3.909	4.138	4.358	4.034	3.084	3.011
Other goods and services	6.846	7.026	7.461	6.779	5.555	5.075	5.687	5.430	5.600	4.489
Personal care	1.179	1.296	.881	.850	1.067	1.097	1.447	1.280	1.412	1.306

See footnotes at end of table.

Table 2. Relative importance of components in the Consumer Price Indexes: Selected metropolitan areas, November 1986—Continued

(Percent of all items)

	Baltimore, Md.		Boston, Mass.		Cincinnati—Hamilton, Ohio—Ky.—Ind.		Cleveland, Ohio		Miami, Fla.	
	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W
Commodity and service group										
All items	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
Commodities	46.029	48.298	40.697	44.046	49.404	50.622	49.285	52.175	48.525	48.428
Food and beverages	16.930	18.460	15.652	18.516	18.879	18.917	19.872	19.696	21.016	17.931
Commodities less food and beverages	29.099	29.838	25.045	25.530	30.525	31.705	29.413	32.479	27.509	30.497
Nondurables less food and beverages	15.590	16.689	13.694	14.823	16.626	16.995	17.433	17.149	15.049	14.664
Durables	13.510	13.149	11.351	10.707	13.899	14.710	11.981	15.330	12.460	15.832
Services	53.971	51.702	59.303	55.954	50.596	49.378	50.715	47.825	51.475	51.572
Medical care services	3.680	3.445	4.494	4.199	3.788	3.217	3.568	2.882	4.268	3.825
Special indexes										
All items less shelter	72.432	74.250	68.113	68.905	74.781	75.429	74.817	75.948	74.181	73.368
All items less medical care	95.366	95.822	94.793	95.126	94.999	95.661	95.410	96.353	94.495	95.519
All items less energy	92.742	91.630	93.158	91.745	91.452	90.762	91.892	91.463	92.499	91.473
Energy	7.258	8.370	6.842	8.255	8.548	9.238	8.108	8.537	7.501	8.527
Commodities less food	30.302	31.204	26.703	27.406	31.992	32.811	31.261	34.152	29.948	31.734
Nondurables less food	16.793	18.055	15.352	16.699	18.093	18.100	19.280	18.822	17.488	15.901
Nondurables	32.520	35.149	29.346	33.339	35.506	35.912	37.305	36.845	36.065	32.596
Services less rent of shelter	26.902	26.505	28.162	25.421	26.139	25.619	26.104	24.292	26.286	25.654
Services less medical care	50.291	48.257	54.809	51.755	46.808	46.161	47.147	44.943	47.207	47.947

See footnotes at end of table.

Table 2. Relative importance of components in the Consumer Price Indexes: Selected metropolitan areas, November 1986—Continued

(Percent of all items)

Expenditure category	Minneapolis—St. Paul, Minn.—Wis.		Portland, Oreg.—Wash.		St. Louis, Mo.—Ill.		San Diego, Calif.		Washington, D.C.—Md.—Va.	
	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W
All items	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
Food and beverages	16.533	17.380	19.585	18.903	19.209	20.842	16.419	16.749	15.294	16.489
Food	14.710	15.483	17.920	16.974	17.517	18.837	14.739	14.963	13.603	14.943
Food at home	8.855	9.348	11.018	10.261	10.823	10.903	9.422	9.568	7.593	8.727
Cereals and bakery products	1.281	1.293	1.501	1.333	1.509	1.524	1.212	1.314	1.024	1.219
Meats, poultry, fish, and eggs	2.238	2.453	2.721	2.608	3.207	3.328	2.660	2.770	2.381	2.910
Meats, poultry, and fish	2.104	2.306	2.514	2.432	2.986	3.107	2.415	2.508	2.270	2.777
Dairy products	1.240	1.348	1.621	1.571	1.395	1.414	1.329	1.265	.996	1.155
Fruits and vegetables	1.470	1.424	1.956	1.672	1.840	1.651	1.723	1.634	1.304	1.467
Other food at home	2.625	2.830	3.219	3.078	2.872	2.986	2.498	2.584	1.888	1.976
Food away from home	5.856	6.135	6.902	6.713	6.694	7.934	5.318	5.416	6.010	6.217
Alcoholic beverages	1.822	1.897	1.664	1.929	1.692	2.005	1.680	1.766	1.690	1.545
Housing	41.625	40.535	43.310	42.233	42.002	39.283	47.590	44.208	42.431	43.740
Shelter	28.368	27.660	29.231	28.949	26.256	23.706	34.590	31.961	27.416	27.718
Renters' costs	7.457	7.425	10.163	11.252	6.793	5.715	11.073	12.845	10.303	13.482
Rent, residential	5.279	5.463	7.890	8.753	4.969	4.201	9.533	11.979	8.190	12.596
Other renters' costs	2.179	1.962	2.273	2.499	1.823	1.514	1.540	.866	2.113	.886
Homeowners' costs	20.740	20.074	18.836	17.521	19.293	17.831	23.349	18.954	16.919	14.113
Owners' equivalent rent	20.273	19.629	18.397	17.205	18.933	17.470	23.031	18.688	16.687	14.003
Fuel and other utilities	6.256	6.433	7.742	7.596	8.317	8.475	5.752	5.834	6.541	7.521
Fuels	3.543	3.604	4.120	4.036	5.011	4.984	2.635	2.555	3.307	3.800
Fuel oil and other household fuel commodities	.135	.129	.265	.184	.329	.398	.102	.103	.281	.210
Fuel oil	.061	.054	.209	.135	.124	.132	.001	.001	.219	.146
Other household fuel commodities	.075	.074	.056	.049	.205	.266	.101	.102	.062	.064
Gas (piped) and electricity	3.407	3.476	3.855	3.852	4.682	4.585	2.533	2.452	3.026	3.589
Electricity	1.752	1.704	2.991	2.984	2.722	2.769	1.909	1.826	1.826	2.038
Utility (piped) gas	1.656	1.772	.864	.869	1.960	1.817	.625	.626	1.201	1.551
Household furnishings and operation	7.001	6.442	6.338	5.689	7.429	7.101	7.248	6.393	8.474	8.501
Apparel and upkeep	5.828	6.114	5.664	5.077	5.789	6.281	5.619	5.690	7.402	7.516
Apparel commodities	5.363	5.773	5.301	4.728	5.300	5.809	4.854	4.848	6.608	6.683
Men's and boys' apparel	1.729	1.582	1.020	1.139	1.520	1.511	1.442	1.382	1.793	2.026
Women's and girls' apparel	2.264	2.547	2.630	2.119	2.187	2.521	2.178	2.197	2.551	2.786
Footwear	.655	.809	.793	.731	.844	1.012	.732	.850	.870	1.395
Transportation	18.393	20.478	15.868	19.442	17.087	19.275	15.904	20.454	18.238	18.151
Private transportation	16.919	19.251	14.380	18.247	15.792	18.577	14.331	19.051	15.719	16.553
Motor fuel	3.458	4.110	2.931	3.197	3.374	3.705	2.430	2.865	2.730	3.298
Public transportation	1.474	1.227	1.488	1.196	1.295	.699	1.573	1.403	2.519	1.598
Medical care	5.583	3.864	5.275	3.738	5.333	4.201	4.717	3.738	4.706	4.009
Entertainment	5.485	5.268	4.643	4.572	4.364	4.310	4.943	4.914	5.375	4.191
Other goods and services	6.555	6.340	5.655	6.034	6.216	5.809	4.808	4.247	6.554	5.905
Personal care	1.147	1.068	1.189	.879	1.400	1.155	1.327	1.166	1.226	1.493

See footnotes at end of table.

Table 2. Relative importance of components in the Consumer Price Indexes: Selected metropolitan areas, November 1986—Continued

(Percent of all items)

	Minneapolis—St. Paul, Minn.—Wis.		Portland, Oreg.—Wash.		St. Louis, Mo.—Ill.		San Diego, Calif.		Washington, D.C.—Md.—Va.	
	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W
Commodity and service group										
All items	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
Commodities	45.632	48.547	44.339	45.157	47.742	52.794	39.941	45.093	43.590	45.911
Food and beverages	16.533	17.380	19.585	18.903	19.209	20.842	16.419	16.749	15.294	16.489
Commodities less food and beverages	29.100	31.167	24.755	26.254	28.533	31.952	23.522	28.344	28.296	29.422
Nondurables less food and beverages	15.628	16.743	15.551	14.465	16.233	17.490	13.211	13.793	15.589	16.241
Durables	13.471	14.423	9.204	11.790	12.300	14.463	10.311	14.551	12.707	13.181
Services	54.368	51.453	55.661	54.843	52.258	47.206	60.059	54.907	56.410	54.089
Medical care services	4.626	3.141	4.002	2.828	4.165	3.282	3.886	3.133	3.939	3.355
Special indexes										
All items less shelter	71.632	72.340	70.769	71.051	73.744	76.294	65.410	68.019	72.584	72.282
All items less medical care	94.417	96.136	94.725	96.262	94.667	95.799	95.283	96.262	95.294	95.991
All items less energy	92.999	92.285	92.949	92.767	91.615	91.312	94.934	94.580	93.962	92.902
Energy	7.001	7.715	7.051	7.233	8.385	8.688	5.066	5.420	6.038	7.098
Commodities less food	30.922	33.064	26.419	28.183	30.225	33.957	25.202	30.109	29.986	30.967
Nondurables less food	17.451	18.641	17.215	16.394	17.925	19.495	14.891	15.559	17.280	17.786
Nondurables	32.161	34.124	35.136	33.367	35.441	38.332	29.630	30.542	30.883	32.729
Services less rent of shelter	26.671	24.431	27.150	26.426	26.564	24.025	25.991	23.419	29.452	26.648
Services less medical care	49.742	48.312	51.658	52.015	48.093	43.923	56.172	51.774	52.472	50.735

Table 3. Relative importance of components in the Consumer Price Indexes: Selected metropolitan areas, December 1986

(Percent of all items)

	Anchorage, Alaska		Atlanta, Ga.		Buffalo, N.Y.		Chicago, Ill.—Northwestern Ind.		Dallas—Fort Worth, Tex.	
Expenditure category	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W
All items	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
Food and beverages	17.865	18.253	16.455	17.026	19.252	21.711	19.021	20.381	14.467	18.675
Food	15.413	15.625	14.668	15.576	17.587	19.914	17.179	18.457	13.096	17.017
Food at home	9.480	9.931	8.383	8.552	11.704	12.687	10.929	12.057	7.675	9.969
Cereals and bakery products	1.131	1.282	.973	1.104	1.677	1.858	1.469	1.625	1.009	1.277
Meats, poultry, fish, and eggs	2.685	2.843	2.714	2.636	3.962	4.291	3.551	3.994	2.265	3.206
Meats, poultry, and fish	2.512	2.648	2.554	2.495	3.778	4.097	3.367	3.777	2.139	3.042
Dairy products	1.220	1.385	1.076	1.142	1.404	1.521	1.269	1.398	.997	1.300
Fruits and vegetables	1.782	1.816	1.540	1.572	1.667	2.040	1.856	1.984	1.329	1.590
Other food at home	2.663	2.605	2.080	2.098	2.774	2.977	2.783	3.056	2.076	2.596
Food away from home	5.933	5.694	6.284	7.024	5.884	7.227	6.250	6.401	5.422	7.048
Alcoholic beverages	2.452	2.628	1.788	1.450	1.664	1.797	1.842	1.924	1.371	1.657
Housing	41.226	40.309	43.963	41.284	40.105	37.857	42.563	40.444	42.587	39.012
Shelter	28.560	27.749	28.365	26.388	25.061	23.168	27.246	25.441	28.036	25.345
Renters' costs	8.930	10.049	7.399	6.699	6.163	6.838	7.452	6.811	7.284	9.056
Rent, residential	6.999	8.412	5.517	5.552	3.970	4.717	5.872	5.963	5.764	8.169
Other renters' costs	1.930	1.637	1.883	1.147	2.193	2.121	1.580	.848	1.520	.887
Homeowners' costs	19.527	17.534	20.759	19.507	18.621	15.805	19.599	18.373	20.552	16.101
Owners' equivalent rent	19.312	17.319	20.367	19.104	18.118	15.424	19.223	18.115	20.021	15.662
Fuel and other utilities	5.683	6.094	8.912	8.883	8.907	8.447	7.635	7.642	6.177	6.901
Fuels	3.362	3.570	5.085	5.106	5.505	5.105	4.376	4.337	2.983	3.366
Fuel oil and other household fuel commodities	.237	.327	.099	.122	.212	.169	.062	.048	.036	.042
Fuel oil	.148	.201	.001	.001	.141	.126	.034	.031	.004	.006
Other household fuel commodities	.089	.126	.098	.121	.072	.044	.028	.017	.032	.036
Gas (piped) and electricity	3.125	3.242	4.986	4.984	5.292	4.936	4.314	4.289	2.946	3.323
Electricity	2.055	2.246	2.557	2.639	2.323	2.170	2.092	2.041	1.716	1.935
Utility (piped) gas	1.069	.996	2.429	2.345	2.969	2.766	2.222	2.248	1.230	1.388
Household furnishings and operation	6.983	6.466	6.686	6.013	6.117	6.241	7.682	7.361	8.374	6.766
Apparel and upkeep	6.043	5.811	7.571	6.332	7.206	7.548	6.621	6.395	8.083	6.976
Apparel commodities	5.573	5.253	6.789	5.584	6.971	7.285	6.149	5.989	7.220	6.078
Men's and boys' apparel	1.494	1.477	1.593	1.272	1.858	1.971	1.901	1.659	1.727	1.639
Women's and girls' apparel	2.496	2.466	3.468	2.597	3.233	3.107	2.746	2.631	3.356	2.758
Footwear	.707	.682	.940	.840	1.059	1.290	.863	1.068	.786	.770
Transportation	19.633	21.425	16.591	20.166	19.339	18.904	16.460	18.463	18.955	20.672
Private transportation	16.811	19.329	15.276	19.016	17.936	17.378	14.290	16.613	17.551	19.831
Motor fuel	2.773	3.409	2.847	3.646	3.160	3.797	3.300	3.848	2.591	3.567
Public transportation	2.822	2.096	1.315	1.150	1.402	1.526	2.170	1.850	1.404	.841
Medical care	4.411	4.365	5.740	5.343	4.821	3.580	4.921	4.961	5.238	4.400
Entertainment	5.661	4.885	4.458	4.106	4.445	4.560	4.383	3.867	4.978	4.180
Other goods and services	5.161	4.953	5.221	5.743	4.834	5.840	6.031	5.488	5.692	6.066
Personal care	1.031	.975	1.258	1.195	1.161	1.282	1.398	1.298	1.177	1.429

See footnotes at end of table.

Table 3. Relative importance of components in the Consumer Price Indexes: Selected metropolitan areas, December 1986—Continued

(Percent of all items)

	Anchorage, Alaska		Atlanta, Ga.		Buffalo, N.Y.		Chicago, Ill.—Northwestern Ind.		Dallas—Fort Worth, Tex.	
	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W
Commodity and service group										
All items	100.000	100.000	100.000	100.000	100,000	100.000	100.000	100.000	100.000	100.000
Commodities	46.304	47.833	43.914	46.403	49.217	51.550	46.786	50.620	45.839	50.207
Food and beverages	17.865	18.253	16.455	17.026	19.252	21.711	19.021	20.381	14.467	18.675
Commodities less food and beverages	28.439	29.581	27.459	29.377	29.966	29.840	27.765	30.238	31.372	31.532
Nondurables less food and beverages	14.399	15.171	16.064	15.615	16.593	18.284	16.457	17.069	16.633	16.614
Durables	14.041	14.409	11.395	13.762	13.373	11.556	11.308	13.169	14.739	14.919
Services	53.696	52.167	56.086	53.597	50.783	48.450	53.214	49.380	54.161	49.793
Medical care services	3.752	3.546	4.439	4.027	3.917	3.058	3.923	3.968	3.879	3.255
Special indexes										
All items less shelter	71.440	72.251	71.635	73.612	74.919	76.832	72.754	74.559	71.964	74.655
All items less medical care	95.589	95.635	94.260	94.657	95.179	96.420	95.079	95.039	94.762	95.600
All items less energy	93.865	93.022	92.068	91.248	91.335	91.098	92.324	91.815	94.427	93.067
Energy	6.135	6.978	7.932	8.752	8.665	8.902	7.676	8.185	5.573	6.933
Commodities less food	30.891	32.206	29.247	30.827	31.630	31.636	29.607	32.162	32.743	33.190
Nondurables less food	16.850	17.799	17.852	17.065	18.257	20.081	18.299	18.993	18.004	18.271
Nondurables	32.263	33.424	32.519	32.641	35.844	39.995	35.478	37.450	31.101	35.286
Services less rent of shelter	25.463	24.805	28.378	27.803	26.547	28.225	26.573	24.463	26.902	25.132
Services less medical care	49.944	48.621	51.646	49.570	46.866	45.392	49.291	45.412	50.281	46.538

See footnotes at end of table.

Table 3. Relative importance of components in the Consumer Price Indexes: Selected metropolitan areas, December 1986—Continued

(Percent of all items)

Expenditure category	Denver—Boulder, Colo.		Detroit, Mich.		Honolulu, Hawaii		Houston, Tex.	
	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W
All items	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
Food and beverages	15.992	20.040	18.494	22.225	21.261	22.576	20.034	22.648
Food	14.234	17.682	16.809	20.259	19.775	20.817	18.098	20.354
Food at home	8.178	10.542	10.502	12.572	12.579	12.804	11.021	12.385
Cereals and bakery products	1.037	1.348	1.516	1.809	1.805	1.841	1.361	1.520
Meats, poultry, fish, and eggs	2.216	3.058	3.778	4.411	4.069	4.424	3.420	4.032
Meats, poultry, and fish	2.074	2.865	3.614	4.195	3.822	4.066	3.235	3.798
Dairy products	1.132	1.331	1.136	1.383	1.091	1.030	1.422	1.617
Fruits and vegetables	1.376	1.586	1.432	1.775	2.788	2.661	1.653	1.826
Other food at home	2.417	3.221	2.640	3.193	3.005	2.827	3.165	3.390
Food away from home	6.055	7.140	6.307	7.687	7.196	8.014	7.077	7.968
Alcoholic beverages	1.759	2.358	1.685	1.966	1.486	1.759	1.936	2.294
Housing	43.688	39.817	41.058	37.015	41.140	38.542	36.504	34.476
Shelter	29.805	26.318	26.368	23.706	30.070	27.814	21.061	20.463
Renters' costs	8.154	10.188	6.190	5.958	9.066	9.195	7.012	7.681
Rent, residential	6.319	8.912	3.953	4.468	7.830	8.343	5.513	6.882
Other renters' costs	1.835	1.275	2.237	1.490	1.236	.852	1.499	.799
Homeowners' costs	21.412	15.926	20.031	17.663	20.777	18.413	13.843	12.655
Owners' equivalent rent	20.882	15.610	19.625	17.268	20.510	18.224	13.288	11.949
Fuel and other utilities	6.844	6.627	8.406	7.845	4.609	4.919	6.667	6.805
Fuels	3.764	3.591	5.037	4.899	2.130	2.257	3.431	3.479
Fuel oil and other household fuel commodities	.069	.072	.178	.149	.020	.024	.121	.106
Fuel oil	.034	.034	.087	.038	.001	.004	.064	.050
Other household fuel commodities	.055	.037	.091	.111	.019	.021	.057	.056
Gas (piped) and electricity	3.675	3.519	4.859	4.751	2.110	2.232	3.310	3.373
Electricity	2.106	2.019	2.235	2.140	1.914	1.949	2.644	2.721
Utility (piped) gas	1.569	1.500	2.624	2.610	.196	.283	.666	.652
Household furnishings and operation	7.039	6.872	6.283	5.462	6.462	5.809	8.776	7.208
Apparel and upkeep	5.870	6.701	7.068	7.726	5.817	6.117	7.331	7.488
Apparel commodities	5.228	6.132	6.621	7.409	5.485	5.762	6.653	6.880
Men's and boys' apparel	1.387	1.568	1.962	1.743	1.459	1.603	2.024	1.862
Women's and girls' apparel	1.930	2.163	2.912	3.340	2.439	2.522	2.504	2.516
Footwear	.691	.897	.881	1.194	.802	.888	1.147	1.137
Transportation	17.331	18.536	18.756	20.171	16.379	18.400	19.844	21.134
Private transportation	15.284	17.239	17.719	18.939	14.327	16.821	18.292	20.127
Motor fuel	2.639	3.921	3.438	3.856	2.779	3.390	3.348	4.166
Public transportation	2.047	1.297	1.037	1.232	2.052	1.579	1.552	1.008
Medical care	5.650	4.486	4.400	3.949	4.819	4.226	5.572	4.657
Entertainment	5.488	4.510	4.177	3.838	4.628	4.468	4.533	3.654
Other goods and services	5.981	5.910	6.046	5.077	5.956	5.671	6.182	5.944
Personal care	1.257	1.626	1.326	1.254	1.280	1.404	1.399	1.607

See footnotes at end of table.

Table 3. Relative importance of components in the Consumer Price Indexes: Selected metropolitan areas, December 1986—Continued

(Percent of all items)

	Denver—Boulder, Colo.		Detroit, Mich.		Honolulu, Hawaii		Houston, Tex.	
	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W
Commodity and service group								
All items	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
Commodities	42.278	49.638	46.497	51.373	44.746	48.519	52.743	56.106
Food and beverages	15.992	20.040	18.494	22.225	21.261	22.576	20.034	22.648
Commodities less food and beverages	26.285	29.597	28.003	29.149	23.485	25.942	32.710	33.458
Nondurables less food and beverages	14.610	17.304	16.450	17.748	14.470	15.721	18.367	18.799
Durables	11.675	12.293	11.554	11.402	9.015	10.221	14.343	14.659
Services	57.722	50.362	53.503	48.627	55.254	51.481	47.257	43.894
Medical care services	4.510	3.510	3.619	3.292	3.872	3.239	4.422	3.646
Special indexes								
All items less shelter	70.195	73.682	73.632	76.292	69.930	72.186	78.939	79.537
All items less medical care	94.350	95.514	95.600	96.051	95.181	95.774	94.428	95.343
All items less energy	93.597	92.488	91.525	91.244	95.091	94.353	93.221	92.355
Energy	6.403	7.512	8.475	8.756	4.909	5.647	6.779	7.645
Commodities less food	28.044	31.956	29.688	31.115	24.971	27.701	34.646	35.752
Nondurables less food	16.368	19.662	18.135	19.712	15.956	17.480	20.303	21.093
Nondurables	30.602	37.345	34.944	39.971	35.731	38.297	38.400	41.447
Services less rent of shelter	28.739	24.598	27.743	25.453	25.695	24.061	27.015	24.325
Services less medical care	53.212	46.852	49.884	45.335	51.382	48.242	42.835	40.249

See footnotes at end of table.

Table 3. Relative importance of components in the Consumer Price Indexes: Selected metropolitan areas, December 1986—Continued

(Percent of all items)

Expenditure category	Kansas City, Mo.—Kans.		L.A.—Long Beach, Anaheim, Calif.		Milwaukee, Wis.		New York, N.Y.—Northeastern N.J.	
	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W
All items	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
Food and beverages	17.726	17.791	17.176	18.448	17.135	18.531	18.845	21.168
Food	16.387	16.612	15.488	16.413	15.257	16.536	17.436	19.783
Food at home	10.347	10.422	9.175	9.860	9.604	10.402	10.203	11.992
Cereals and bakery products	1.346	1.315	1.170	1.279	1.442	1.583	1.443	1.659
Meats, poultry, fish, and eggs	3.181	3.180	2.722	2.924	2.967	3.351	3.542	4.427
Meats, poultry, and fish	2.953	2.935	2.507	2.667	2.827	3.203	3.360	4.217
Dairy products	1.338	1.394	1.218	1.330	1.211	1.313	1.291	1.385
Fruits and vegetables	1.735	1.744	1.650	1.699	1.372	1.382	1.817	2.033
Other food at home	2.746	2.790	2.417	2.629	2.612	2.793	2.109	2.488
Food away from home	6.040	6.190	6.313	6.553	5.653	6.135	7.233	7.791
Alcoholic beverages	1.338	1.179	1.689	2.034	1.878	1.995	1.409	1.385
Housing	41.426	37.693	45.039	42.822	44.986	42.635	45.369	42.772
Shelter	25.743	23.087	32.461	30.218	29.912	27.913	31.428	29.490
Renters' costs	6.867	6.657	10.731	11.789	8.565	8.154	10.328	10.348
Rent, residential	5.420	5.360	8.986	10.427	6.025	5.707	8.342	9.348
Other renters' costs	1.447	1.297	1.745	1.362	2.540	2.447	1.986	1.000
Homeowners' costs	18.860	16.157	21.488	18.225	21.120	19.543	20.750	18.840
Owners' equivalent rent	18.168	15.736	21.049	17.930	20.770	19.175	20.426	18.548
Fuel and other utilities	8.132	7.821	5.471	5.389	7.322	6.952	7.749	7.969
Fuels	4.684	4.489	2.473	2.385	5.015	4.690	4.603	4.711
Fuel oil and other household fuel commodities	.048	.046	.036	.045	.392	.331	.923	.928
Fuel oil	.007	.005	.001	.001	.297	.234	.848	.843
Other household fuel commodities	.040	.041	.035	.044	.095	.098	.075	.085
Gas (piped) and electricity	4.636	4.442	2.437	2.340	4.624	4.358	3.680	3.782
Electricity	2.363	2.283	1.670	1.579	2.177	2.031	2.333	2.350
Utility (piped) gas	2.273	2.160	.766	.761	2.447	2.327	1.347	1.432
Household furnishings and operation	7.551	6.786	7.107	7.217	7.752	7.770	6.192	5.293
Apparel and upkeep	6.318	5.955	5.953	6.193	4.420	4.962	7.117	7.623
Apparel commodities	5.626	5.494	5.246	5.437	4.014	4.642	6.388	6.999
Men's and boys' apparel	1.805	1.423	1.432	1.433	1.192	1.280	1.595	1.725
Women's and girls' apparel	2.263	2.313	2.220	2.182	1.921	2.320	3.257	3.586
Footwear	1.009	1.119	.806	.731	.447	.526	1.005	1.126
Transportation	18.862	24.925	16.748	19.638	17.293	18.792	13.888	14.584
Private transportation	18.060	24.320	15.001	18.439	16.085	17.924	11.445	12.216
Motor fuel	3.231	3.509	2.706	3.105	3.177	3.983	1.975	2.593
Public transportation	.801	.605	1.747	1.199	1.208	.867	2.442	2.368
Medical care	5.808	4.534	5.341	3.718	4.483	3.598	4.996	4.417
Entertainment	3.939	3.523	4.607	4.496	5.021	4.813	3.895	3.387
Other goods and services	5.922	5.579	5.136	4.685	6.661	6.669	5.889	6.048
Personal care	1.426	1.349	1.177	1.117	1.265	1.061	1.250	1.210

See footnotes at end of table.

Table 3. Relative importance of components in the Consumer Price Indexes: Selected metropolitan areas, December 1986—Continued

[Percent of all items]

	Kansas City, Mo.—Kans.		L.A.—Long Beach, Anaheim, Calif.		Milwaukee, Wis.		New York, N.Y.—Northeastern N.J.	
	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W
Commodity and service group								
All items	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
Commodities	47.961	52.767	41.594	47.071	45.321	49.221	42.766	46.141
Food and beverages	17.726	17.791	17.176	18.448	17.135	18.531	18.846	21.168
Commodities less food and beverages	30.235	34.976	24.418	28.623	28.186	30.690	23.921	24.973
Nondurables less food and beverages	16.430	16.299	13.720	14.300	14.775	16.707	14.957	16.691
Durables	13.805	18.677	10.697	14.323	13.411	13.983	8.963	8.282
Services	52.039	47.233	58.406	52.929	54.679	50.779	57.234	53.859
Medical care services	4.596	3.662	4.480	2.973	3.637	2.719	4.181	3.774
Special indexes								
All items less shelter	74.257	76.813	67.539	69.784	70.088	72.087	68.572	70.510
All items less medical care	94.192	95.466	94.659	96.282	95.517	96.402	95.004	95.583
All items less energy	92.085	92.002	94.821	94.510	91.808	91.327	93.422	92.697
Energy	7.915	7.998	5.179	5.490	8.192	8.673	6.578	7.303
Commodities less food	31.574	36.155	26.106	30.658	30.065	32.685	25.330	26.358
Nondurables less food	17.768	17.478	15.409	16.334	16.653	18.702	16.367	18.076
Nondurables	34.156	34.090	30.897	32.748	31.910	35.238	33.803	37.859
Services less rent of shelter	27.056	24.896	26.672	23.241	25.393	23.497	26.510	24.982
Services less medical care	47.443	43.571	53.926	49.956	51.042	48.060	53.053	50.085

See footnotes at end of table.

Table 3. Relative importance of components in the Consumer Price Indexes: Selected metropolitan areas, December 1986—Continued

(Percent of all items)

	Philadelphia, Pa.—N.J.		Pittsburgh, Pa.		San Francisco—Oakland, Calif.		Seattle—Tacoma, Wash.	
	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W
Expenditure category								
All items	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
Food and beverages	17.308	19.285	20.257	21.200	17.516	20.365	18.267	18.658
Food	15.974	18.053	18.597	19.244	15.517	18.230	16.460	16.817
Food at home	10.073	12.421	12.499	12.977	8.730	11.169	9.663	9.136
Cereals and bakery products	1.454	1.860	1.813	1.803	1.103	1.389	1.269	1.180
Meats, poultry, fish, and eggs	3.313	4.439	3.815	4.043	2.620	3.477	2.629	2.429
Meats, poultry, and fish	3.123	4.204	3.601	3.829	2.441	3.255	2.476	2.286
Dairy products	1.158	1.432	1.623	1.648	1.138	1.374	1.343	1.286
Fruits and vegetables	1.682	1.793	2.235	2.265	1.586	1.899	1.603	1.400
Other food at home	2.467	2.897	3.013	3.219	2.283	3.031	2.820	2.842
Food away from home	5.900	5.632	6.097	6.266	6.787	7.061	6.797	7.681
Alcoholic beverages	1.334	1.232	1.660	1.956	1.999	2.135	1.807	2.041
Housing	41.677	41.002	39.030	39.731	47.833	44.159	43.019	41.681
Shelter	27.418	26.601	23.270	23.486	35.167	31.917	29.203	28.413
Renters' costs	7.997	7.202	5.220	5.212	11.233	13.948	9.863	11.478
Rent, residential	5.296	5.092	3.598	3.594	9.296	12.666	7.395	9.802
Other renters' costs	2.701	2.110	1.622	1.617	1.937	1.282	2.468	1.674
Homeowners' costs	19.311	19.321	17.905	18.137	23.757	17.770	19.000	16.591
Owners' equivalent rent	18.879	18.944	17.580	17.795	23.300	17.484	18.608	16.270
Fuel and other utilities	8.187	8.764	8.826	9.068	5.691	5.893	6.158	6.241
Fuels	5.060	5.431	5.294	5.242	2.560	2.527	3.377	3.383
Fuel oil and other household fuel commodities	.568	.602	.137	.123	.047	.060	.347	.228
Fuel oil	.463	.463	.058	.038	.004	.004	.299	.203
Other household fuel commodities	.125	.139	.079	.085	.043	.057	.048	.026
Gas (piped) and electricity	4.493	4.829	5.156	5.119	2.513	2.467	3.031	3.154
Electricity	2.990	3.123	2.358	2.345	1.624	1.648	2.451	2.606
Utility (piped) gas	1.502	1.706	2.798	2.774	.889	.819	.579	.548
Household furnishings and operation	6.072	5.637	7.133	7.177	6.775	6.348	7.658	7.028
Apparel and upkeep	6.247	6.606	7.234	5.583	5.229	5.888	5.268	4.798
Apparel commodities	5.772	6.116	6.834	5.131	4.560	5.249	4.742	4.364
Men's and boys' apparel	1.705	1.518	1.776	1.376	1.365	1.427	1.338	1.214
Women's and girls' apparel	2.439	2.799	2.789	2.118	1.842	2.089	2.013	1.943
Footwear	1.042	1.361	1.246	.902	.622	.742	.725	.717
Transportation	18.749	18.306	17.393	18.819	15.251	16.496	17.323	19.643
Private transportation	17.106	16.782	16.455	17.773	12.937	14.998	15.117	17.482
Motor fuel	2.521	3.057	3.327	3.579	2.264	2.888	2.993	3.340
Public transportation	1.641	1.524	.939	1.046	2.314	1.498	2.206	2.161
Medical care	5.303	3.893	5.523	3.679	3.967	3.215	4.284	3.781
Entertainment	3.960	3.267	4.235	4.152	4.937	5.041	5.304	5.248
Other goods and services	6.755	7.640	6.328	6.835	5.467	4.837	6.534	5.993
Personal care	1.349	1.361	1.400	1.262	1.138	1.152	1.240	1.062

See footnotes at end of table.

Table 3. Relative importance of components in the Consumer Price Indexes: Selected metropolitan areas, December 1986—Continued

(Percent of all items)

	Philadelphia, Pa.—N.J.		Pittsburgh, Pa.		San Francisco—Oakland, Calif.		Seattle—Tacoma, Wash.	
	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W	CPI-U	CPI-W
Commodity and service group								
All items	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
Commodities	43.966	45.462	50.590	50.216	38.857	44.788	44.740	47.258
Food and beverages	17.308	19.285	20.257	21.200	17.516	20.365	18.267	18.858
Commodities less food and beverages	26.658	26.177	30.333	29.016	21.342	24.423	26.473	28.400
Nondurables less food and beverages	14.982	16.444	17.491	15.760	12.374	14.142	14.633	14.708
Durables	11.676	9.733	12.842	13.256	8.968	10.281	11.840	13.692
Services	56.034	54.538	49.410	49.784	61.143	55.212	55.260	52.742
Medical care services	4.428	3.146	4.041	2.610	3.237	2.466	3.494	3.152
Special indexes								
All items less shelter	72.582	73.399	76.730	76.514	84.833	68.083	70.797	71.587
All items less medical care	94.697	96.107	94.477	96.321	96.033	96.765	95.716	96.219
All items less energy	92.398	91.512	91.380	91.178	95.157	94.585	93.630	93.277
Energy	7.602	8.488	8.620	8.822	4.843	5.415	6.370	6.723
Commodities less food	27.992	27.410	31.993	30.972	23.341	26.558	28.281	30.440
Nondurables less food	16.316	17.678	19.152	17.716	14.373	16.277	16.441	16.749
Nondurables	32.290	35.729	37.749	36.960	29.889	34.507	32.900	33.566
Services less rent of shelter	29.209	28.422	26.631	26.804	26.642	23.799	26.834	25.033
Services less medical care	51.606	51.392	45.369	47.174	57.905	52.746	51.765	49.591

Enclosure 3

MARKET BASKET	1982-84 Expenditure shares	1993-95 Preliminary Expenditure Shares	December 1996 CPI Relative Importance
All Items	100.0	100.0	100.0
Food and beverages	17.9	15.9	17.5
Food at home	*11.8*	*10.6*	*11.6*
Food away from home	*6.2*	*5.3*	*5.9*
Housing	41.8	43.5	41.1
Shelter	*25.7*	*28.5*	*28.2*
Housing less shelter	*16.1*	*14.9*	*13.0*
Apparel	6.5	6.0	5.3
Transportation	18.9	18.7	17.1
Motor Fuel	*4.9*	*3.2*	*3.2*
Medical care	5.0	5.8	7.3
Entertainment	4.5	4.5	4.4
Other goods and services	5.4	5.7	7.2

INDEX	MARKET BASKET	1982-84 Expenditure shares	1993-95 Preliminary Expenditure Shares	December 1996 CPI Relative Importance
SE01	**Cereal and Cereal Products**	**0.432**	**0.577**	**0.449**
SE0101	Flour and prepared flour mixes	0.084	0.071	0.077
SE0102	Cereal	0.238	0.348	0.272
SE0103	Rice, pasta, and cornmeal	0.110	0.158	0.100
SE02	**Bakery Products**	**0.928**	**0.968**	**1.031**
SE0201	White bread	0.231	0.130	0.261
SE0202	Fresh other bread, biscuits, rolls, and muffins	0.212	0.277	0.236
SE0204	Cookies, fresh cakes, and cupcakes	0.226	0.273	0.252
SE0206	Other bakery products	0.259	0.288	0.282
SE03	**Beef and Veal**	**1.141**	**0.820**	**0.955**
SE0301	Ground beef other than canned	0.443	0.314	0.317
SE0302	Chuck roast	0.094	0.046	0.086
SE0303	Round roast	0.062	0.051	0.051
SE0304	Other beef and veal	0.356	0.264	0.347
SE0305	Round steak	0.097	0.058	0.080
SE0306	Sirloin steak	0.089	0.087	0.074
SE04	**Pork**	**0.638**	**0.549**	**0.615**
SE0401	Bacon	0.116	0.076	0.115
SE0402	Chops	0.148	0.137	0.145
SE0403	Ham	0.144	0.135	0.143
SE0404	Other pork, including sausage	0.230	0.201	0.212
SE05	**Other meats**	**0.443**	**0.347**	**0.398**
SE0501	Other meats	0.443	0.347	0.398
SE06	**Poultry**	**0.437**	**0.490**	**0.453**
SE0601	Fresh whole chicken	0.143	0.088	0.149
SE0602	Fresh and frozen chicken parts	0.204	0.278	0.218
SE0603	Other poultry	0.090	0.124	0.086
SE07	**Fish and seafood**	**0.338**	**0.334**	**0.375**
SE0701	Canned fish and seafood	0.093	0.062	0.072
SE0702	Fresh and frozen fish and seafood	0.245	0.272	0.303
SE08	**Eggs**	**0.188**	**0.108**	**0.205**
SE0801	Eggs	0.188	0.108	0.205
SE09	**Fresh milk and cream**	**0.685**	**0.444**	**0.632**
SE0901	Fresh whole milk	0.396	0.194	0.365
SE0902	Other fresh milk and cream	0.289	0.250	0.267
SE10	**Processed dairy products**	**0.674**	**0.599**	**0.613**
SE1001	Other dairy products, including butter	0.125	0.116	0.106
SE1002	Cheese	0.376	0.309	0.348
SE1004	Ice cream and related products	0.173	0.174	0.159
SE11	**Fresh fruits**	**0.515**	**0.502**	**0.789**
SE1101	Apples	0.097	0.095	0.118
SE1102	Bananas	0.089	0.104	0.070
SE1103	Oranges, including tangerines	0.060	0.060	0.090
SE1104	Other fresh fruits	0.269	0.243	0.511
SE12	**Fresh vegetables**	**0.500**	**0.492**	**0.567**
SE1201	Potatoes	0.090	0.097	0.094
SE1202	Lettuce	0.068	0.065	0.066
SE1203	Tomatoes	0.076	0.077	0.089
SE1204	Other fresh vegetables	0.266	0.253	0.318
SE13	**Processed fruits**	**0.382**	**0.339**	**0.352**
SE1301	Fruit juices and frozen fruit	0.296	0.268	0.276
SE1303	Canned and dried fruits	0.086	0.071	0.076
SE14	**Processed vegetables**	**0.290**	**0.276**	**0.264**
SE1401	Frozen vegetables	0.097	0.097	0.086
SE1402	Other processed vegetables	0.193	0.179	0.178

INDEX	MARKET BASKET	1982-84 Expenditure Shares	1993-95 Preliminary Expenditure Shares	December 1996 CPI Relative Importance
SE15	**Sugar and sweets**	**0.369**	**0.385**	**0.331**
SE1501	Sweets, including candy	0.263	0.309	0.245
SE1502	Sugar and artificial sweeteners	0.106	0.076	0.086
SE16	**Fats and oils**	**0.274**	**0.281**	**0.246**
SE1601	Fats and oils	0.274	0.281	0.246
SE17	**Nonalcoholic drinks**	**0.905**	**0.824**	**0.724**
SE1701	Carbonated drinks	0.497	0.459	0.360
SE1703	Coffee	0.252	0.148	0.229
SE1705	Other noncarbonated drinks	0.156	0.217	0.135
SE18	**Other prepared foods**	**1.061**	**1.304**	**1.038**
SE1801	Canned and packaged soup	0.084	0.108	0.095
SE1802	Frozen prepared food	0.188	0.237	0.169
SE1803	Snacks	0.220	0.270	0.203
SE1804	Seasonings, condiments, sauces, and spices	0.277	0.290	0.279
SE1806	Miscellaneous prepared food, including baby food	0.292	0.399	0.292
SE19	**Food away from home**	**6.151**	**5.281**	**5.874**
SE1901	Lunch	2.175	1.758	2.078
SE1902	Dinner	2.646	2.548	2.490
SE1903	Other meals and snacks	1.029	0.791	0.999
SE1909	Unpriced	0.301	0.184	0.307
SE20	**Alcoholic beverages**	**1.564**	**0.933**	**1.571**
SE2001	Beer and ale	0.473	0.336	0.424
SE2002	Distilled spirits	0.229	0.111	0.208
SE2003	Wine	0.217	0.164	0.188
SE2005	Alcoholic beverages away from home	0.645	0.322	0.751
SE21	**Pure rent-renter occupied**	**7.269**	**8.384**	**7.961**
SE2101	Rent, residential	5.519	6.558	5.731
SE2102	Lodging while out of town	1.577	1.609	2.001
SE2103	Lodging while at school	0.173	0.217	0.229
SE22	**Rental equivalence and household insurance**	**18.234**	**19.962**	**19.999**
SE2201	Owners equivalent rent	17.841	19.515	19.616
SE2202	Household insurance	0.393	0.447	0.383
SE23	**Maintenance and repair services**	**0.129**	**0.111**	**0.123**
SE2301	Maintenance and repair services	0.129	0.111	0.123
SE24	**Maintenance and repair commodities**	**0.096**	**0.089**	**0.077**
SE2401	Materials, supplies, and equipment	0.042	0.027	0.035
SE2404	Other maintenance and repair commodities	0.054	0.062	0.042
SE25	**Fuel oil and other fuels**	**0.564**	**0.260**	**0.424**
SE2501	Fuel oil	0.409	0.182	0.293
SE2502	Other household fuel commodities	0.155	0.078	0.131
SE26	**Gas (piped) and electricity**	**4.614**	**3.925**	**3.453**
SE2601	Electricity	2.919	2.868	2.334
SE2602	Utility Natural Gas Service	1.695	1.057	1.119
SE27	**Other utilities and public services**	**3.308**	**3.986**	**3.225**
SE2701	Local charges	1.089	1.146	1.123
SE2702	Water and sewerage maintenance	0.600	0.654	0.778
SE2703	Cable television	0.410	0.770	0.554
SE2704	Refuse collection	0.145	0.247	0.220
SE2705	Interstate toll calls	0.663	0.729	0.325
SE2706	Intrastate toll calls	0.401	0.440	0.225
SE28	**Textile housefurnishings**	**0.439**	**0.387**	**0.329**
SE2801	Textile furnishings	0.439	0.387	0.329

INDEX	MARKET BASKET	1982-84 Expenditure Shares	1993-95 Preliminary Expenditure Shares	December 1996 CPI Relative Importance
SE29	**Furniture and bedding**	**1.353**	**1.168**	**1.117**
SE2901	Bedroom furniture	0.425	0.337	0.364
SE2902	Sofas	0.266	0.276	0.232
SE2903	Living room chairs and tables	0.220	0.186	0.187
SE2904	Other furniture	0.442	0.369	0.334
SE30	**Household appliances**	**0.453**	**0.301**	**0.285**
SE3001	Refrigerators and home freezers	0.130	0.103	0.089
SE3002	Laundry equipment	0.134	0.098	0.093
SE3003	Stoves, ovens, dishwashers, and air conditioners	0.189	0.100	0.103
SE31	**Television and sound equipment**	**0.958**	**0.861**	**0.407**
SE3101	Televisions	0.352	0.267	0.137
SE3102	Video products other than televisions	0.248	0.252	0.071
SE3103	Audio products	0.358	0.342	0.199
SE3109	Unpriced	0.000		0.000
SE32	**Other household equipment and furnishings**	**1.549**	**1.305**	**1.122**
SE3201	Floor and window coverings, infants, laundry, cl	0.196	0.175	0.175
SE3202	Clocks, lamps, and decor items	0.302	0.254	0.215
SE3203	Tableware, serving pieces, and nonelectric kitchen	0.261	0.174	0.192
SE3204	Lawn equipment, power tools,	0.265	0.261	0.178
SE3205	Sewing, floor cleaning, small kitchen, and portabl	0.226	0.148	0.116
SE3206	Indoor plants and fresh cut flowers	0.193	0.171	0.166
SE3209	Unpriced	0.106	0.122	0.080
SE33	**Housekeeping supplies**	**1.262**	**1.233**	**1.093**
SE3301	Laundry and cleaning products	0.434	0.366	0.382
SE3303	Household paper products and stationery supplies	0.409	0.406	0.368
SE3305	Other household, lawn, and garden supplies	0.419	0.461	0.343
SE34	**Housekeeping services**	**1.584**	**1.492**	**1.481**
SE3401	Postage	0.260	0.207	0.258
SE3402	Babysitting	0.304	0.223	0.263
SE3403	Domestic service	0.285	0.301	0.231
SE3404	Gardening and other household services	0.379	0.424	0.380
SE3406	Appliance and furniture repair	0.178	0.082	0.182
SE3407	Care of invalids/elderly/convalescents	0.056	0.104	0.052
SE3409	Unpriced	0.122	0.151	0.115
SE35	**Tenant's insurance**	**0.036**	**0.031**	**0.033**
SE3501	Tenant's insurance	0.036	0.031	0.033
SE36	**Men's apparel**	**1.297**	**1.134**	**1.053**
SE3601	Suits, sport coats, coats, and jackets	0.378	0.275	0.312
SE3603	Furnishings and special clothing	0.314	0.328	0.243
SE3604	Shirts	0.314	0.275	0.268
SE3605	Dungarees, jeans, and trousers	0.273	0.241	0.216
SE3609	Unpriced	0.018	0.015	0.014
SE37	**Boys' apparel**	**0.317**	**0.302**	**0.227**
SE3701	Boys' apparel	0.314	0.301	0.225
SE3709	Unpriced	0.003	0.001	0.002
SE38	**Women's apparel**	**2.270**	**1.931**	**1.786**
SE3801	Coats and jackets	0.239	0.161	0.183
SE3802	Dresses	0.373	0.305	0.264
SE3803	Separates and sportswear	1.086	0.970	0.838
SE3804	Underwear, nightwear, hosiery,and accessories	0.393	0.345	0.321
SE3805	Suits	0.145	0.127	0.154
SE3809	Unpriced	0.034	0.023	0.026
SE39	**Girls' apparel**	**0.380**	**0.338**	**0.315**
SE3901	Girl's apparel	0.372	0.328	0.308
SE3909	Unpriced	0.008	0.010	0.007

INDEX	MARKET BASKET	1982-84 Expenditure shares	1993-95 Preliminary Expenditure Shares	December 1996 CPI Relative Importance
SE40	**Footwear**	**0.916**	**0.935**	**0.718**
SE4001	Mens	0.275	0.307	0.227
SE4002	Boys and girls	0.187	0.212	0.153
SE4003	Womens	0.454	0.416	0.339
SE41	**Infants' and toddlers' apparel**	**0.232**	**0.264**	**0.187**
SE4101	Infants' & toddlers' apparel	0.210	0.245	0.169
SE4109	Unpriced	0.022	0.019	0.018
SE42	**Sewing materials and luggage**	**0.107**	**0.060**	**0.088**
SE4201	Sewing materials and luggage	0.107	0.060	0.088
SE43	**Jewelry**	**0.462**	**0.509**	**0.412**
SE4301	Watches	0.100	0.078	0.080
SE4302	Jewelry	0.362	0.431	0.332
SE44	**Apparel services**	**0.536**	**0.481**	**0.545**
SE4401	Other apparel services	0.256	0.207	0.255
SE4402	Laundry and dry cleaning other than coin operated	0.280	0.274	0.290
SE45	**New vehicles**	**5.517**	**5.242**	**4.955**
SE4501	New cars	4.484	3.060	3.952
SE4502	New trucks	0.953	2.123	0.910
SE4503	New motorcycles	0.080	0.058	0.093
SE46	**Used vehicles**	**1.482**	**2.178**	**1.278**
SE4601	Used cars	1.272	1.578	1.165
SE4609	Unpriced	0.210	0.600	0.113
SE47	**Motor fuel, motor oil, coolant, and fluids**	**4.922**	**3.201**	**3.231**
SE4701	Motor fuel	4.847	3.143	3.171
SE4702	Motor oil, coolant, and other products	0.075	0.058	0.060
SE48	**Automobile parts and equipment**	**0.818**	**0.594**	**0.529**
SE4801	Tires	0.427	0.293	0.268
SE4802	Other parts and equipment	0.391	0.301	0.261
SE49	**Automobile maintenance and repair**	**1.525**	**1.520**	**1.533**
SE4901	Body work	0.156	0.114	0.163
SE4902	Automobile drive train, brake, and misc mech repair	0.427	0.466	0.450
SE4903	Maintenance and servicing	0.524	0.504	0.486
SE4904	Power plant repair	0.396	0.416	0.411
SE4909	Unpriced	0.022	0.020	0.023
SE50	**Automobile insurance**	**1.705**	**2.428**	**2.629**
SE5001	Automobile insurance	1.705	2.428	2.629
SE51	**Vehicle finance charges**	**0.923**	**0.774**	**0.599**
SE5101	Vehicle Finance Charges	0.760	0.496	0.492
SE5109	Unpriced	0.163	0.278	0.107
SE52	**Vehicle rental, registration, and inspection**	**0.656**	**1.415**	**0.745**
SE5201	Automobile registration, licensing, and inspecti	0.309	0.344	0.366
SE5205	Other automobile-related fees	0.324	1.048	0.353
SE5209	Unpriced	0.023	0.023	0.026
SE53	**Public transportation**	**1.328**	**1.331**	**1.641**
SE5301	Airline fares	0.862	0.843	1.108
SE5302	Other intercity transportation	0.139	0.192	0.141
SE5303	Intracity public transportation	0.317	0.292	0.380
SE5309	Unpriced	0.010	0.004	0.012
SE54	**Prescription drugs and medical supplies**	**0.577**	**0.679**	**0.890**
SE5401	Prescription drugs and medical supplies	0.577	0.679	0.890
SE55	**Nonprescription drugs and medical supplies**	**0.363**	**0.403**	**0.383**
SE5502	Internal and respiratory over-the-counter drugs	0.232	0.280	0.246
SE5503	Nonprescription medical equipment and supplies	0.131	0.123	0.137
SE5509	Unpriced	0.000	.	0.000

INDEX	MARKET BASKET	1982-84 Expenditure shares	1993-95 Preliminary Expenditure Shares	December 1996 CPI Relative Importance
SE56	**Professional services**	**2.609**	**2.819**	**3.472**
SE5601	Physicians services	1.365	1.467	1.885
SE5602	Dental services	0.765	0.777	1.083
SE5603	Eye care	0.329	0.340	0.334
SE5604	Services by other medical professionals	0.150	0.235	0.170
SE57	**Hospital and other medical care services**	**1.328**	**1.634**	**2.276**
SE5701	Hospital rooms	0.532	0.587	0.886
SE5702	Other inpatient services	0.491	0.629	0.870
SE5703	Outpatient services	0.301	0.407	0.514
SE5709	Unpriced	0.004	0.011	0.006
SE58	**Health insurance**	**0.154**	**0.250**	**0.325**
SE581	Commercial	0.103	0.124	0.084
SE582	Blue Cross-Blue Shield	0.018	0.018	0.100
SE583	HMO	0.007	0.041	0.006
SE584	Other health insurance	0.026	0.067	0.135
SE59	**Reading materials**	**0.665**	**0.580**	**0.734**
SE5901	Newspapers	0.320	0.252	0.380
SE5902	Magazines, periodicals, and books	0.345	0.328	0.354
SE5909	Unpriced	0.000	0.000	0.000
SE60	**Sporting goods and equipment**	**0.624**	**0.609**	**0.399**
SE6001	Sport vehicles, including bicycles	0.336	0.306	0.185
SE6002	Other sporting goods	0.288	0.303	0.214
SE61	**Toys, hobbies, and other entertainment commodities**	**1.008**	**1.017**	**0.824**
SE6101	Toys, hobbies, and music equipment	0.487	0.484	0.372
SE6102	Photographic supplies and equipment	0.135	0.086	0.112
SE6103	Pet supplies and expense	0.374	0.433	0.330
SE6109	Unpriced	0.012	0.014	0.010
SE62	**Entertainment services**	**2.163**	**2.268**	**2.394**
SE6201	Club memberships	0.356	0.352	0.353
SE6202	Fees for participant sports, excluding club membership	0.309	0.347	0.394
SE6203	Admissions	0.593	0.563	0.714
SE6204	Fees for lessons or instructions	0.209	0.204	0.247
SE6205	Other entertainment services	0.676	0.786	0.664
SE6209	Unpriced	0.020	0.016	0.022
SE63	**Tobacco products**	**1.116**	**0.871**	**1.601**
SE6301	Tobacco and smoking products	1.116	0.869	1.601
SE6309	Unpriced	0.000	0.002	0.000
SE64	**Toilet goods and personal care appliances**	**0.673**	**0.768**	**0.588**
SE6401	Other toilet goods and small personal care appliance	0.392	0.403	0.326
SE6403	Cosmetics, bath and nail preparations, manicure and	0.281	0.365	0.262
SE65	**Personal care services**	**0.560**	**0.497**	**0.556**
SE6501	Beauty parlor services for females	0.446	0.328	0.441
SE6502	Haircuts and other barber shop services for males	0.114	0.169	0.115
SE6509	Unpriced	0.000	0.000	0.000
SE66	**School books and supplies**	**0.188**	**0.196**	**0.264**
SE6601	School bks, supp-college	0.132	0.135	0.188
SE6602	Elem/HS books, supp	0.046	0.036	0.062
SE6609	Unpriced	0.010	0.025	0.014
SE67	**Day care, tuition, and other school fees**	**1.588**	**1.869**	**2.770**
SE6701	College tuition	0.896	0.983	1.638
SE6702	Elementary and high school tuition	0.275	0.281	0.492
SE6703	Day care and nursery school	0.258	0.493	0.377
SE6704	Tuition for tech/business/& other sch	0.093	0.046	0.150
SE6709	Unpriced	0.066	0.066	0.113

INDEX	MARKET BASKET	1982-84 Expenditure shares	1993-95 Preliminary Expenditure Shares	December 1996 CPI Relative Importance
SE68	**Legal, financial, and funeral services**	**0.995**	**0.996**	**1.366**
SE6801	Legal service fees	0.363	0.339	0.480
SE6802	Personal financial services	0.259	0.262	0.390
SE6803	Funeral expenses	0.292	0.307	0.390
SE6809	Unpriced	0.081	0.088	0.106
SE69	**Information processing equipment**	**0.238**	**0.551**	**0.074**
SE6901	Information processing equipment	0.238	0.551	0.074

Source: Bureau of Labor Statistics

Enclosure 4

1987 and 1998 Item Classification Structures

Legend: MAJOR GROUP - INTERMEDIATE AGGREGATE - **Expenditure Class** - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
FOOD AND BEVERAGES	**FOOD AND BEVERAGES**
FOOD	FOOD
FOOD AT HOME	FOOD AT HOME
CEREALS AND BAKERY PRODUCTS	CEREALS AND BAKERY PRODUCTS
Cereals and cereal products	**Cereals and cereal products**
Flour and prepared flour mixes	Flour and prepared flour mixes
Cereal	Breakfast cereal
Rice, pasta, cornmeal	Rice, pasta, cornmeal
Bakery products	**Bakery products**
White bread	Bread
Other breads, rolls, biscuits, and muffins	Fresh biscuits, rolls, muffins
Cakes, cupcakes, and cookies	Cakes, cupcakes, and cookies
Other bakery products	Other bakery products
MEATS, POULTRY, FISH, AND EGGS	MEATS, POULTRY, FISH, AND EGGS
MEATS, POULTRY AND FISH	MEATS, POULTRY AND FISH
MEATS	MEATS
Beef and veal	**Beef and veal**
Ground beef	Uncooked ground beef
Chuck roast	Uncooked beef roasts
Round roast	Uncooked beef steaks
Other steak, roast, and other beef	Uncooked other beef and veal
Round steak	
Sirloin steak	
Pork	**Pork**
Bacon	Bacon, breakfast sausage, and related products
Pork chops	Ham
Ham	Pork chops
Other pork, including sausage	Other pork including roasts and picnics
Other meats	**Other meats**
Other meats	Other meats
Poultry	**Poultry**
Fresh whole chicken	Chicken
Fresh or frozen chicken parts	Other poultry including turkey
Other poultry	
Fish and seafood	**Fish and seafood**
Canned fish and seafood	Fresh fish and seafood
Fresh or frozen fish and seafood	Processed fish and seafood

1987 and 1998 Item Classification Structures

Legend: MAJOR GROUP - INTERMEDIATE AGGREGATE - Expenditure Class - Item Strata

1987 Item Classification Structure	**1998 Item Classification Structure**
Eggs	**Eggs**
Eggs	Eggs
DAIRY PRODUCTS	
Fresh milk and cream	**Dairy and related products**
Fresh whole milk	Milk
Other fresh milk and cream	Cheese and related products
	Ice cream and related products
	Other dairy and related products
Processed dairy products	
Butter and other dairy products	
Cheese	
Ice cream and related products	
FRUITS AND VEGETABLES	FRUITS AND VEGETABLES
	FRESH FRUITS AND VEGETABLES
Fresh fruits	**Fresh fruits**
Apples	Apples
Bananas	Bananas
Oranges	Citrus fruits
Other fresh fruits	Other fresh fruits
Fresh vegetables	**Fresh vegetables**
Potatoes	Potatoes
Lettuce	Lettuce
Tomatoes	Tomatoes
Other fresh vegetables	Other fresh vegetables
Processed fruits	**Processed fruits and vegetables**
Fruit juices and frozen fruits	Canned fruits and vegetables
Canned and dried fruits	Frozen fruits and vegetables
	Other processed fruits and vegetables including dried
Processed vegetables	
Frozen vegetables	
Canned and other processed vegetables	
	NONALCOHOLIC BEVERAGES AND BEVERAGE MATERIALS
	Juices and nonalcoholic drinks
	Carbonated drinks
	Frozen noncarbonated juices and drinks
	Nonfrozen noncarbonated juices and drinks
	Beverage materials including coffee and tea
	Coffee
	Other beverage materials including tea
OTHER FOOD AT HOME	OTHER FOOD AT HOME
Sugar and sweets	**Sugar and sweets**

1987 and 1998 Item Classification Structures

Legend: **MAJOR GROUP** - **INTERMEDIATE AGGREGATE - Expenditure Class** - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
Candy and other sweets	Sugar and artificial sweeteners
Sugar and artificial sweeteners	Candy and chewing gum
	Other sweets

1987 and 1998 Item Classification Structures

Legend: **MAJOR GROUP** - **INTERMEDIATE AGGREGATE** - **Expenditure Class** - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
Fats and oils	**Fats and oils**
Fats and oils	Butter and margarine
	Salad dressing
	Other fats and oils including peanut butter
Other prepared foods	**Other foods**
Canned and packaged soup	Soups
Frozen prepared foods	Frozen and freeze dried prepared foods
Snacks	Snacks
Spices, seasonings, condiments, sauces	Spices, seasonings, condiments, sauces
Other prepared food	Baby food
	Other miscellaneous foods
Nonalcoholic beverages	
Carbonated drinks	
Coffee	
Other noncarbonated drinks	
Food away from home	**Food away from home**
Lunch	Full service meals and snacks
Dinner	Limited service meals and snacks
Other meals and snacks	Food at employee sites and schools
Unsampled board and catered affairs	Food from vending machines and mobile vendors
	Other food away from home
	ALCOHOLIC BEVERAGES
Alcoholic beverages	**Alcoholic beverages at home**
Beer, ale, and alcoholic malt	Beer, ale, and other malt beverages at home
Distilled spirits at home	Distilled spirits at home
Wine at home	Wine at home
Alcoholic beverages away from home	
	Alcoholic beverages away from home
	Alcoholic beverages away from home
HOUSING	**HOUSING**
SHELTER	**SHELTER**
Pure rent-renter occupied	**Rent of primary residence**
Rent of dwelling	Rent of primary residence
Lodging while out of town	
Lodging while at school	**Lodging away from home**
	Housing at school, excluding board
	Other lodging away from home including hotels and motels
Rental equivalence and household insurance	**Owners' equivalent rent of primary residence**
Owners' equivalent rent	Owners' equivalent rent of primary residence
Unsampled household insurance	
Tenants' insurance	**Tenants' and household insurance**
Tenants' insurance	Tenants' and household insurance
Maintenance and repair services	
Property maintenance and repair services	

1987 and 1998 Item Classification Structures

Legend: **MAJOR GROUP** - INTERMEDIATE AGGREGATE - Expenditure Class - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure

1987 and 1998 Item Classification Structures

Legend **MAJOR GROUP** - INTERMEDIATE AGGREGATE - **Expenditure Class** - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
Maintenance and repair commodities	
Materials, supplies, equipment for home repairs	
Other property maintenance commodities	
FUELS AND UTILITIES	FUELS AND UTILITIES
FUELS	FUELS
Fuel oil and other fuels	**Fuel oil and other fuels**
Fuel oil	Fuel oil
Other fuels	Other household fuels
Gas (piped) and electricity	**Gas (piped) and electricity**
Electricity	Electricity
Utility natural gas service	Utility natural gas service
Other utilities and public services	**Water and sewer and trash collection services**
Telephone services, local charges	Water and sewerage maintenance
Water and sewerage maintenance	Garbage and trash collection
Community antenna and cable television	
Garbage and trash collection	
Interstate telephone services	
Intrastate telephone services	
HOUSEHOLD FURNISHINGS AND OPERATIONS	HOUSEHOLD FURNISHINGS AND OPERATIONS
Textile house furnishings	**Window and floor coverings and other linens**
Linens, curtains, drapes, sewing materials	Floor coverings
	Window coverings
	Other linens
Furniture and bedding	**Furniture and bedding**
Bedroom furniture	Bedroom furniture
Sofas	Living room, kitchen, and dining room furniture
Living room chairs and tables	Other furniture
Other furniture	Unsampled furniture
Household appliances	**Appliances**
Refrigerators and home freezers	Major appliances
Laundry equipment	Other appliances
Stoves, ovens, portable dishwashers, window air conditioners	Unsampled appliances
Other household equipment and furnishings	**Other household equipment and furnishings**
Floor/window coverings, outdoor/infant/laundry equipment	Clocks, lamps, and decorator items
Clocks, lamps, and decorator items	Indoor plants and flowers
Tableware, serving pieces, nonelectric kitchenware	Dishes and flatware
Lawn and garden equipment, tools, hardware	Nonelectric cookware and tableware
Small kitchen appliances, sewing machines, portable heating/cooling equip	**Tools, hardware, outdoor equipment and supplies**
Indoor plants and fresh cut flowers	Tools, hardware and supplies
Unsampled household equipment parts, small furnishings	Outdoor equipment and supplies
	Unsampled tools, hardware, outdoor equipment and supplies
Housekeeping supplies	**Housekeeping supplies**
Laundry and cleaning products	Household cleaning products

1987 and 1998 Item Classification Structures

Legend: **MAJOR GROUP** - **INTERMEDIATE AGGREGATE** - **Expenditure Class** - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
Household paper products, including stationery	Household paper products
Other household products, lawn and garden supplies	Miscellaneous household products
Housekeeping services	**Household operations**
Postage	Housekeeping services
Unsampled baby-sitting	Gardening and lawn care services
Domestic service	Moving, storage, freight expense
Other household services	Repair of household items
Appliance and furniture repair	Unsampled household operations
Care of invalids, elderly, and convalescents in the home	
Unsampled rent/repair of household equipment, sound equipment	
Television and sound equipment	
Television sets	
Video cassette recorders, disc players, and tapes	
Audio components, radios, recordings, and other	
Unsampled accessories for electronic equipment	
Information processing equipment	
Information processing equipment	
APPAREL AND UPKEEP	**APPAREL**
APPAREL COMMODITIES	
MEN'S AND BOYS' APPAREL	**MEN'S AND BOYS' APPAREL**
Men's apparel	**Men's apparel**
Men's suits, coats, sportcoats, jackets	Men's suits, sport coats, and outerwear
Men's furnishings	Men's furnishings
Men's shirts	Men's shirts and sweaters
Men's pants and shorts	Men's pants and shorts
Unsampled uniforms and other clothing	Unsampled men's apparel
Boys' apparel	**Boy's apparel**
Boys' apparel	Boy's apparel
Unsampled boys' uniforms and other clothing	Unsampled boy's apparel
WOMEN'S AND GIRLS' APPAREL	**WOMEN'S AND GIRLS' APPAREL**
Women's apparel	**Women's apparel**
Women's coats and jackets	Women's outerwear
Women's dresses	Women's dresses
Women's separates, sportswear	Women's suits and separates
Women's underwear, nightwear, accessories	Women's underwear, nightwear, sportswear and accessories
Women's suits	Unsampled women's apparel
Unsampled uniforms and other clothing	
Girls' apparel	**Girls' apparel**
Girls' apparel	Girls' apparel
Unsampled uniforms and other clothing	Unsampled girls' apparel
Footwear	**Footwear**

1987 and 1998 Item Classification Structures

Legend **MAJOR GROUP** - **INTERMEDIATE AGGREGATE - Expenditure Class** - Item Strata

1987 Item Classification Structure	1998 Item Classification Structure
Men's footwear	Men's footwear
Boys' and girls' footwear	Boys' and girls' footwear
Women's footwear	Women's footwear

1987 and 1998 Item Classification Structures

Legend: **MAJOR GROUP** - **INTERMEDIATE AGGREGATE** - **Expenditure Class** - Item Strata

1987 Item Classification Structure	**1998 Item Classification Structure**
Infants' and toddlers' apparel	**Infants' and toddlers' apparel**
Infants' and toddlers' apparel	Infants' and toddlers' apparel
Unsampled accessories and other clothing	
Sewing materials and luggage	
Sewing materials, notions, luggage	
Jewelry	**Jewelry and watches**
Watches	Watches
Jewelry	Jewelry
APPAREL SERVICES	
Apparel services	
Other apparel services	
Apparel laundry and dry-cleaning, excluding coin operated	
TRANSPORTATION	**TRANSPORTATION**
PRIVATE TRANSPORTATION	**PRIVATE TRANSPORTATION**
New vehicles	**New and used motor vehicles**
New cars	New vehicles
New trucks	Used cars and trucks
New motorcycles	Leased cars and trucks
	Car and truck rental
	Unsampled new and used motor vehicles
Used vehicles	
Used cars	
Unsampled other used vehicles	
Motor fuel, motor oil, coolant, and fluids	**Motor fuel**
Motor fuel	Gasoline (all-types)
Motor oil, coolant, and other fluids	Other motor fuels
Automobile parts and equipment	**Motor vehicle parts and equipment**
Tires	Tires
Vehicle parts and equipment other than tires	Vehicle accessories other than tires
Automobile maintenance and repair	**Motor vehicle maintenance and repair**
Automotive body work	Motor vehicle body work
Automotive drive-train, front-end repair	Motor vehicle maintenance and servicing
Automotive maintenance and servicing	Motor vehicle repair
Automotive power plant repair	Unsampled service policies
Unsampled automotive repair service policy	
Automobile insurance	**Motor vehicle insurance**
Automobile insurance	Motor vehicle insurance
Vehicle finance charges	
Automobile finance charges	
Unsampled other vehicle finance charges	
Vehicle rental, registration, and inspection	**Motor vehicle fees**
State and local automobile registration, license, inspection	State and local registration and license

1987 and 1998 Item Classification Structures

Legend: **MAJOR GROUP** - INTERMEDIATE AGGREGATE - **Expenditure Class** - Item Strata

1987 Item Classification Structure	**1998 Item Classification Structure**
Other automobile-related fees	Motor vehicle property tax
Unsampled docking and landing fees	Parking and tolls
	Unsampled motor vehicle fees
Public transportation	**Public transportation**
Airline fare	Airline fare
Other intercity transportation	Other intercity transportation
Intracity transportation	Intracity transportation
Unsampled school bus	Unsampled public transportation
MEDICAL CARE	**MEDICAL CARE**
MEDICAL CARE COMMODITIES	MEDICAL CARE COMMODITIES
Prescription drugs and medical supplies	**Prescription drugs and medical supplies**
Prescription drugs and medical supplies	Prescription drugs and medical supplies
	Unsampled rent or repair of medical equipment
Nonprescription drugs and medical supplies	**Nonprescription drugs and medical supplies**
Nonprescription drugs and medical supplies	Internal and respiratory over-the-counter drugs
Nonprescription medical equipment and supplies	Nonprescription medical equipment and supplies
MEDICAL CARE SERVICES	MEDICAL CARE SERVICES
Professional services	**Professional services**
Physicians' services	Physicians' services
Dental services	Dental services
Eyeglasses and eye care	Eyeglasses and eye care
Services by other medical professionals	Services by other medical professionals
Hospital and other medical care services	**Hospital and related services**
Hospital room, in patient	Hospital services
Other in-patient services	Nursing homes and adult daycare
Hospital out-patient services	
Unsampled rent or repair of medical equipment	
Health insurance	**Health insurance**
Commercial health insurance	Commercial health insurance
Blue cross/Blue Shield	Blue Cross/Blue Shield
Health Maintenance Organizations	Health Maintenance Plans
Other health insurance	Medicare and other health insurance
ENTERTAINMENT	**RECREATION**
	Video and audio
	Televisions
	Cable television
	Other video equipment
	Video cassettes, discs, and other media including rental
	Audio equipment
	Audio discs, tapes and other media
	Unsampled video and audio
	Pets, pet products and services